

FEBRUARY 1911 - 1962

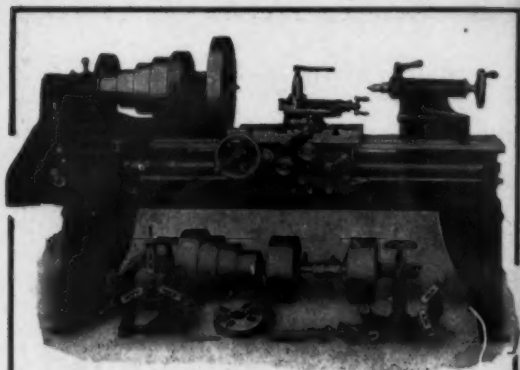
Issued Every Month

for Free Distribution to Users
of Machine Tools

HITCHCOCK'S
**MACHINE
TOOL LIST**

A Reference Book for Buyers
of Iron Working Machinery

Published by
A. H. HITCHCOCK
1220-1235 Caxton Building
Chicago



Accurate Lathe Work in the **Tool Room and Factory**

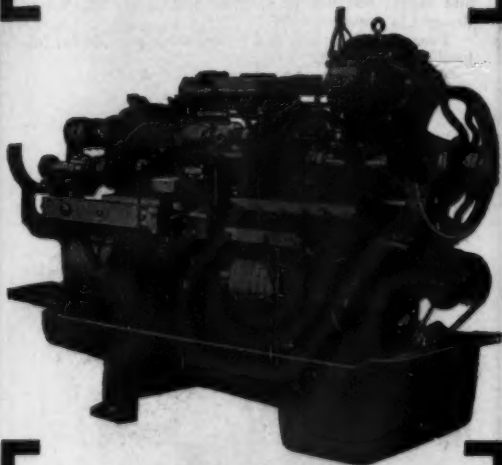
Is the first step to success in any metal working enterprise. You cannot afford to cheapen your product by the use of cheap equipment. The buyer demands the best.

First of all you want Lathes on which it is possible to bore, turn and face true, and chase threads of the greatest accuracy. You will want tools having practical conveniences and rigid design to insure rapid production.

The **Champion Catalogue** of 10, 12, 14, 16 and 18 inch Lathes illustrates and describes such tools in detail. They're the high quality tools at right prices.

Champion Tool Works Co.
2426 Spring Grove Ave.,
Cincinnati, Ohio, - U. S. A.

THE ACME AUTOMATIC



MULTIPLE SPINDLE SCREW MACHINE

Makers of duplicate parts appreciate the speed and convenience with which the Acme turns out first class work.

The time and expense wasted in performing the operations up to eight or ten by old methods is remedied by the Acme's ability to perform *them all* in the time of the longest. Low costs are the result.

THE NATIONAL-ACME MFG. CO.
CLEVELAND, OHIO

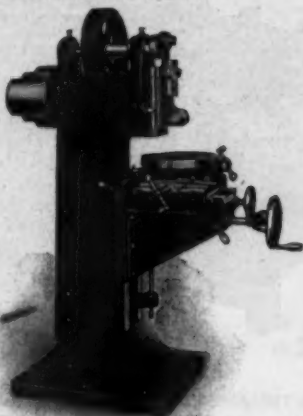
BRANCH OFFICES: New York, Boston, Detroit,
Chicago, Montreal, Canada.

USE GARVIN Die Slotting Machines

For all die work, small keyseating, both straight and taper; internal or external gear patterns, where draught is required, etc.

Two cross motions and rotary table provide for following any outline.

The stroke of machine is $2\frac{1}{2}$ in.



Garvin Die Slotting Machine

Use Code—Quietus

Adjustments—in. $15 \times 6\frac{1}{2} \times 7$

IMMEDIATE DELIVERY

FOR FURTHER } ASK YOUR DEALER
INFORMATION } OR
WRITE US DIRECT

Send for circular No. 161

Manufactured by

THE GARVIN MACHINE CO.

Spring and Varick Sts., New York City

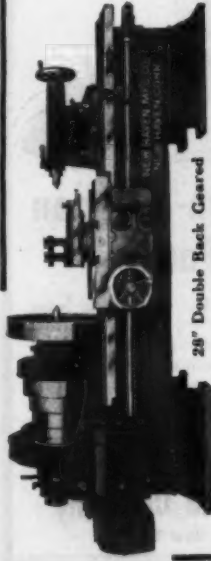


The Latest Watson-Stillman Hydraulic Punch

is very handy for the operator and is typical of all our larger sizes. If portability is not desired, this tool can be had without the truck. The internal pump heretofore placed in the head is discarded for an outside pump at the rear. In this position the operating lever is lower and easier to handle. The new arrangement also permits larger and much more accessible valves.

*Our tools are made to handle any hydraulic punching proposition.
Tell us what you need*

The Watson-Stillman Company
Church & Fulton Sts., New York



28" Double Back Geared

Not Only
Right up to date
But
Up to date right

Every Up-to-date Improvement In

New Haven High-Power Modern Lathes Is of the Dependable Kind

There's a lot of difference between new selling points and improvements that are dependable. New Haven Lathes yield first place to none in their up-to-dateness, but they are up to date *right*. They also have behind them not only the New Haven Guaranty, but our reputation of 60 years in building nothing but reliable tools. And our highly specialized organization for economies in production permits us to make a satisfactory price.

18 to 65 in. swing; belt or motor drive; single or double back gear; what shall it be?

New Haven Manufacturing Co., - New Haven, Conn.

EXTENSION GAP LATHE

14 to 28 Inches



*Ask for our new
Catalogue*

A new size, for garage and light manufacturing work, which incorporates the usual Fay & Scott features with several additional improvements. The upper bed is moved by power; double bearing provided for triple gear shaft; gear guards for exposed gears added.

This machine has strength, power, and will turn out the extra long work with the same accuracy as regular work.

FAY & SCOTT,

Dexter, Maine



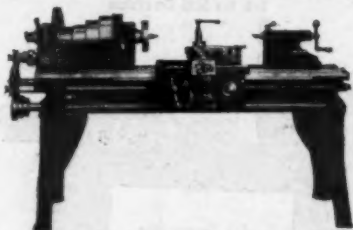
Cincinnati Lathes

justly deserve their good reputation because of the attention and care given to every detail. We supply them with **5 step** or wide **3 step** Cone—double back gears and any attachments. Select either our **Quick Change Gear** or the Standard **All Geared Feed Box** that has an unlimited range. Any details sent upon request.

The Cincinnati Lathe & Tool Company

2730-32 Spring Grove Avenue, : : : Cincinnati, Ohio

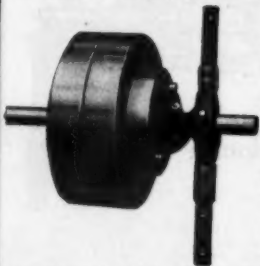
A 16 in.x6 ft. Engine Lathe for \$270



We have in stock a few of the L. Robbins type of Standard Engine Lathes, with compound rest, on six foot beds, that will swing 16 in. over the ways, which we are obliged to move, and we offer them at \$270, net, f. o. b. Worcester, our regular price being \$345 each. These lathes are stiff and powerful tools and are such as Mr. Robbins has sold in the past to many Railroads, Corporations, Automobile Manufacturers and other substantial machine tool users.

The Robbins Machine Co.
Worcester, Mass.

EDGEMONT FRICTION CLUTCHES



Extended Sleeves Cut-off Couplings, are made to stand the rough usage friction clutches are subject to.

That they have been adopted by 30 of the leading machinery manufacturers, should convince you that they are the simplest and most powerful clutches on the market.

Cut shows our extended sleeve type, which will drive wood or steel pulleys, gears, sprockets, etc.

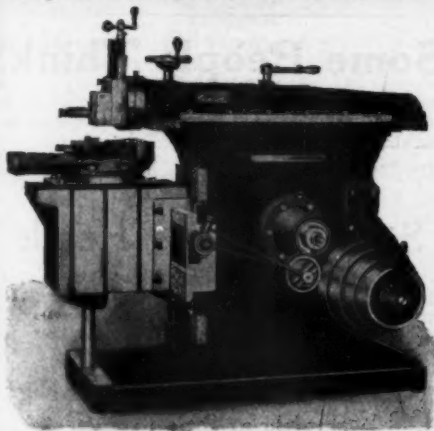
If you want to avoid clutch troubles, tell us your wants. We make them for all purposes.

Our catalog D for your card

The Edgemont Machine Co., Ft. of Mound Street,
DAYTON, O.

A Shaper With Power---Plus

**You Can Always Rely on the "Cincinnati" Heavy
Duty for Ordinary and Extraordinary Work**



24-inch, Back Geared

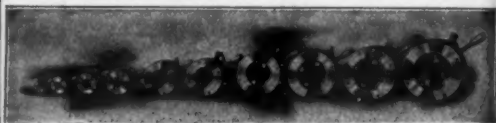
THERE'S A GOOD DEAL of satisfaction, as well as ultimate profit, in knowing that your shapers can be relied on for *all* work that can come your way. Our Shapers are built to give maximum service—results—this year, next year, and ten years hence, at lowest cost.

Note the ease with which the "Cincinnati" takes deep cuts, and its absolute rigidity under stress of the heaviest work. These are things that make for economy—and profit.

*Send for our free Shaper Book and get fully posted regarding
Shapers of all kinds and dimensions*

The Cincinnati Shaper Co.

Colerain Ave. and Elam St., CINCINNATI, OHIO



Some People Think!

it necessary to buy a special machine on which to cut coarse pitch Acme or square screw threads, but this is not a fact, for the

Geometric Style "D" Die Heads

when applied to a suitable Screw Machine or Turret Lathe, make the very best possible equipment for cutting any diameter, form or pitch of screw thread, and it does not tie up a lot of money, either, for the equipment.

**Geometric Die Heads are a Big
Saving at Small Cost.**

Shall we tell you more about them?

The Geometric Tool Co.

New Haven, Conn., U. S. A.

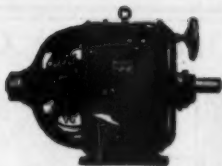


V
alm
abl
kin

will
mo
spa
line
grea
V
real
rang
step
all k
T
char
need

W
sens
men
but
gear
If
our
need
have
be c

W
Reli



When you install motor drive in your plant—get all the advantages

Why be satisfied with the ordinary type of motor which *almost* gives the desired results when you can get a *real* adjustable speed motor that *does* give the best possible results—the kind you want.

Reliance Adjustable Speed Motors

will give you all the usual advantages obtained with ordinary motors, such as greater cleanliness, better light, clear overhead space, flexible arrangement of machines, absence of belt and line shaft accidents, ample power at the cutting tool, and the greatest possible power economy.

What is of added importance on your machine tools is the really accurate speed adjustment throughout wide and unbroken ranges in speed. The changes are smooth and gradual—no steps or jumps. You get the right speed for any operation on all kinds of work.

This is all accomplished easily and quickly by a simple mechanical method inside the motor—*no electrical controller is needed.*

Reliance Service

We are not electric motor manufacturers in the ordinary sense of the word but are specialists in complete motor equipments for Machine Shops. We furnish not only the motors but are also prepared to design and manufacture all brackets, gears, etc., for converting your belt driven tools to motor drive.

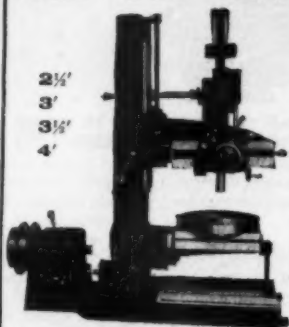
If you have work on which motors can be used to advantage our Engineers will gladly make a careful investigation of your needs. All we ask is an opportunity to show you what we have to offer as we are confident that sooner or later you will be convinced of the superior merit of Reliance Motors.

*Our Folder No. 10-L is interesting reading for machine tool users
Ask us to send a copy*

We manufacture Reliance Constant Speed Motors for either alternating or direct current service.

Reliance Electric & Engineering Company
1050 Ivanhoe Road, Cleveland, Ohio

The One Lever Control



of all spindle motions is a big convenience, but it's only one of many advantages that have made the

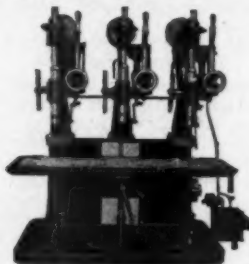
Gang Radial

the first choice of so many practical manufacturers. You, too, will like its simplicity, rigidity, its many conveniences—all features that make for big production. We invite the strictest comparisons.

Our friction type head, style "G," is also worth investigating. Write us.

The Wm. E. Gang Company
Cincinnati, Ohio

Rockford Gangs



They not only drill, but they bore, ream, tap and face without removing work from jig.

Write for descriptive matter

Rockford Drilling Machine Company
Rockford, Ill., U. S. A.

For

T
cap
spe
stro
Sp
bev
line
is t
mac
all o

The



For Drilling With High Speed Steel

This new 24-inch swing High Duty Drill, with a capacity for drills from $\frac{1}{2}$ in. to $1\frac{1}{4}$ in., drives high speed steel drills to their limit in solid steel. Its strong, rigid construction is clearly shown in cut. Spur gears are used entirely, except 1 pair of 2 to 1 bevel gears, and everything is driven in a straight line, with the result that practically *all* the power is transmitted directly to the drill point. This machine is reasonable in cost and it easily excels all other types in efficiency. Details?

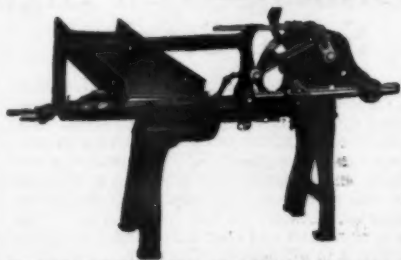
The Foote-Burt Company,
Cleveland, Ohio.

The Best Value In Drill Presses

**Are our
Modern 20"
and 21"**

They do rapid and accurate work at a very low cost, and cost very little to install. Our deliveries are from stock.

For cutting your Bars or Shapes get a Royal Power Saw—Simplest and best.



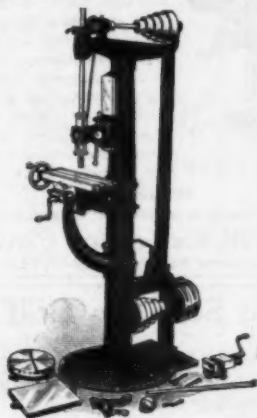
Write
today
for
Booklet
and
Circulars

FRONTIER IRON WORKS

Letchworth and Grant Sts., Buffalo, N. Y.

Three Machines In One

With only one setting of the work, the No. 1 Knight enables you to Mill, Bore and Drill at any angle and in any position



ITS GREAT utility makes for the economy upon which all successful manufacturing depends. Hard-headed, experienced shop managers appreciate the 20 to 50 per cent saving it makes possible in the tool room, and experimental and repair departments.

Suppose you write us, stating just what your needs are, and we'll tell you what the No. 1 can do for you. We have an illustrated folder showing it at work on sixteen different operations.

W. B. Knight Machinery Co.
St. Louis, Mo.

Our No. 2 is Heavier, and just as Handy

It Costs You Nothing

You don't have to pay for a Curtis Extractor, because your Oil Man pays for it



No. 400—Capacity: 2 Bushels

You give us what it saves you for a few weeks, and then you put the saving in your bank, or your pocket, and keep putting it in week after week and year after year. It takes the oil from chips and turnings that you would otherwise throw away. A simple, sensible device for picking up money. Inexpensive to install, easy to operate, simple, durable and effective. With a simple steam attachment, it is just the thing for cleaning waste. Three sizes.

Write now

Every day's delay means so much good oil—and good money—wasted.

Curtis Oil Extractor Company

95 Foster St., Worcester, Mass.

A Good Sensitive Drill Press

You will find this 14 inch drill press new in design, and very rigid in construction. We have added every convenience that makes for maximum production. The square table with generous apron, swings around column and can be tilted to any angle. It has an adjustable gauge for holding work. The removable round table is vertically adjustable. The spindle adjustment is exceptionally sensitive.



*If you want the biggest results in your drilling department, you need our No. 205.
The price, too, is right*

Rockford Lathe & Drill Co., Rockford, Ill.

There Is Money To Be Saved The *Avey* Drill

will Cut a Big Hole in
your drilling time.

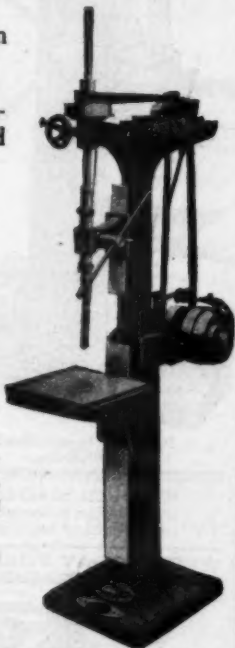
It is **Ball Bearing** through-
out--and for **High Speed**
work.

*The Spindle is larger
The Belts are wider
It has more feed*
than any other Ball Bearing
Drill Press on the market

It has a whole lot of con-
veniences that no others have,
all very important and saving
much time in adjustments.

Compare with any.

*Get the Best--it
saves you money*



The Cincinnati Pulley Machinery Co.
Cincinnati, Ohio



Increase Your Profits!

You cannot drill one hole at a time and expect to produce work at the lowest cost.

Multiple Drills are adapted to drill all kinds of articles—do not think that your work cannot be done on these machines.

No. 1—9" Round Head
Drills $6\frac{1}{2}$ " Holes.

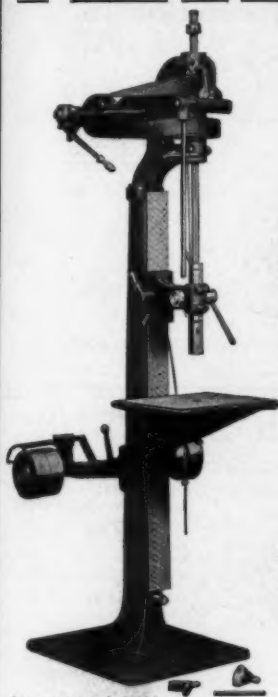
We build machines drilling circles
9" to 24" in diameter, and rectangular
or irregular layouts 9x12" to 16x30"

WRITE TODAY FOR FULL INFORMATION

FOX MACHINE CO.

13 N. Front St., GRAND RAPIDS, MICH.

15" Drilling and Tapping Machine



**The only Tool
of its
Kind Built.**

Is entirely sensitive, and gives *six spindle speeds* for drilling or tapping without the use of any gears.

Capacity--

Drilling $\frac{3}{4}$ -in.

Tapping $\frac{1}{2}$ -in.

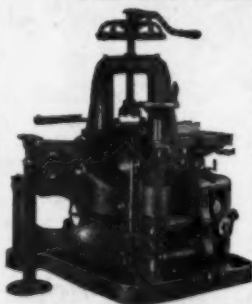
(PAT. AUG. 2nd, 1900.)

Send for descriptive circular giving complete specifications

The Kern Machine Tool Co.

4657-59 Spring Grove Ave., Cincinnati, U. S. A.

As Convenient to Operate As an Automobile



On the Lea Simplex Cold Metal Saw the operator, without taking a step, can raise and lower the blade by hand, put in the power feed, throw in the power return, vary the rate of feed or adjust the automatic trip.

Learn all the features.
Ask for new 1911 folder--free

LEA EQUIPMENT COMPANY

West and Cedar Sts.,

New York City.

A 12 Inch Saw, \$100.

Immediate Delivery

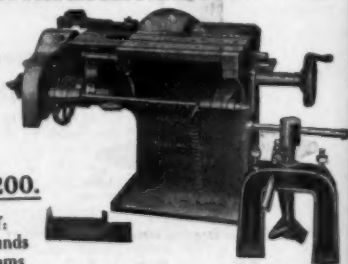
Screw Feed and Ball Bearing Thrust

Cuts 3x5 or
1-2x9 inch.
Power Friction
Feed.

Automatic
Knockout.

Large Clamp-
ing Table.

20 in., \$200.



CAPACITY:
5 $\frac{1}{8}$ Inch Rounds
12 Inch I Beams

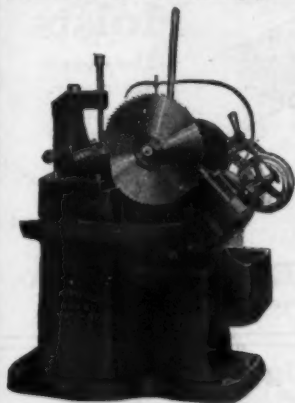
Write for particulars

Burke Machine Co., Conneaut, Ohio

COCHRANE-BLY

Cold Saws and Sharpeners

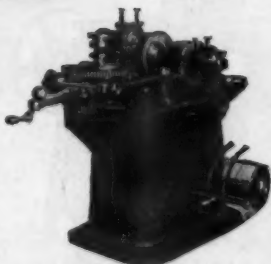
Illustrations show a desirable equipment for general shop use



No. 2-B is 4½-inch capacity round stock and has vise equipment for all shapes. Rigid construction, three changes of feed with powerful drive mechanism, affording favorable conditions for the saw.

The No. 10 Automatic Sharpener has capacity for blades 10 in. to 15 in. diameter, and grinds and bevels perfectly in one operation the special type of blade used on our machines.

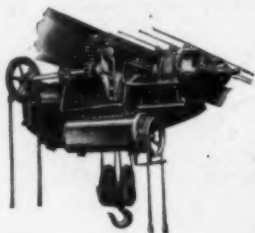
A sharpening machine is not a necessity, but a convenience and an economy.



Five sizes metal saws. Two sizes sharpeners.

Cochrane-Bly Company
Rochester, New York, U. S. A.

Why Be Downhearted



when our

Hoists

will help you to
make money.

Hoists, Trolleys,
Cranes, Derricks,
Hoisters and Buckets

Victor R. Browning & Co.
Cleveland, Ohio

Racine - High - Speed - Saws



Patented July 13-09

Cut Your Cutting Cost

Will Do The Work of
6 Ordinary Machines

Saves Time
Saves Blades
Saves Material

30 days free trial.

Ask for Racine Blades.

Racine Tool & Machine Company
Racine Junction, Wis.

Eastern Representative: Simplex Tool & Supply Co., Boston, Mass.

Metal Cutting Machine

The Elastic Wheel Cuts Metals and Costs!



This machine quickly cuts off tubing and pipe up to 3 in. diameter, solid pieces up to $\frac{3}{4}$ in. diameter, either of soft or hard steel—the harder the better—in a surprisingly short time. A 12x3-32 in. Elastic Cutting Wheel, running at 3,000 r. p. m., does the business. It needs no sharpening and is always ready to cut anything that comes in its way. The material to be cut remains stationary in the V work-shoe, which is a decided advantage, and the only practical way, particularly when operating on long pieces. The Elastic Wheel is swung forward to take the cut, by either the right or left hand or foot, handles and treadles being provided. After taking its cut, the wheel support is automatically returned to its rest position by means of a spring attached to the treadle.

For cutting tools to be used in a tool-holder, the V work-shoe may be swung at any angle to form two points at once, and swung back again to cut square across, thus causing little waste of expensive material, an important item in high speed steel.

A countershaft and a light stock-support form part of the equipment.

A simple machine in construction and operation. Saves time, labor and material.

At a price within reach of all

Nutter & Barnes Company

326 A Street, Boston, Mass.

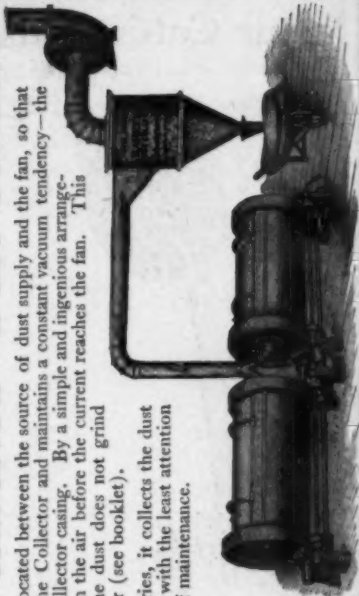
Specialists in Cutting-off Machinery.

All Kinds of Metallic or Flinty Dust, such as Dust from Emery Wheels, Polishers, Tumbling Mills, Sand Blasts, etc., Removed with Practically No Abrasion of Fan Parts, by

The Morse "Rarefied" Dust Collector

THE COLLECTOR is located between the source of dust supply and the fan, so that the fan *draws* the air through the Collector and maintains a constant vacuum tendency—the "Rarefied" principle—in the collector casing. By a simple and ingenious arrangement, the dust is separated from the air before the current reaches the fan. This not only saves the fan, but the dust does not grind against the walls of the collector (see booklet).

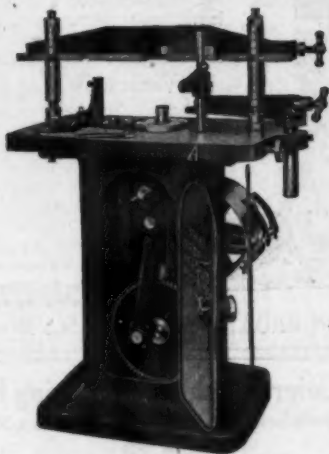
With a suction that never varies, it collects the dust and discharges it automatically, with the least attention and at a big reduction in cost of maintenance.



*Our free Booklet tells
the whole story*

**The Knickerbocker Co.,
Jackson, Mich.**

Accurate Machine Tools



Davis Keyseater

Made in two sizes

Suitable for internal keyseating in pulleys, gears, etc.

A simple, well made tool, giving a large output at a small cost.

No expert operator required.

Orders can be sent to us direct or through leading machinery dealers in all parts of the world.

For further particulars address

The W. P. Davis Machine Co.

Rochester, New York, U. S. A.

Leiman Bros. Positive High Pressure
Blowers and Vacuum Pumps



Used wherever a blast of air is required; for furnaces, forges, sand blasts, blow pipes; all gas & oil appliances; gas producers.

For Vacuum Cleaning Outfits

These are the only machines that take up their own wear; small piston gives big air space; no springs or delicate parts; centrifugal force holds wings against cylinder; noiseless; slow speeds.

8 SIZES \$17 UP
For All Purposes

*Send for catalog No. 26 for Blowers,
 No. 27 for Vacuum Pumps*

LEIMAN BROS., 62 R John St., New York

The Geier Bench Straightening Press
An Indispensable Tool for the Modern Shop

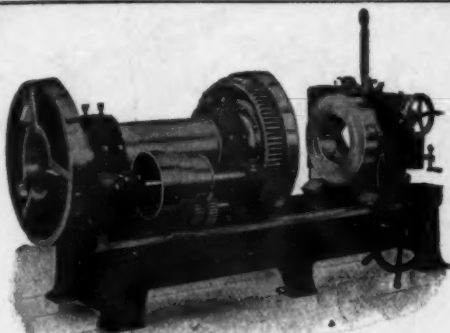


In Two Sizes, For Stock to 2 and 2½ in. Diam.

We built this Press originally for our own use, for we could not find one elsewhere that would stand the strain of our work. It proved so effective and reliable that we have made one for **you**, heavily built and properly reinforced, and have a description ready to send you.

What's your address? Ours is

The P. A. Geier Co., Cleveland, Ohio



Peerless, P. D. Q. C. and Duplex
Power Pipe Machines

**In 17 Styles and Sizes
For 1-4 in. to 18-in. Pipe**

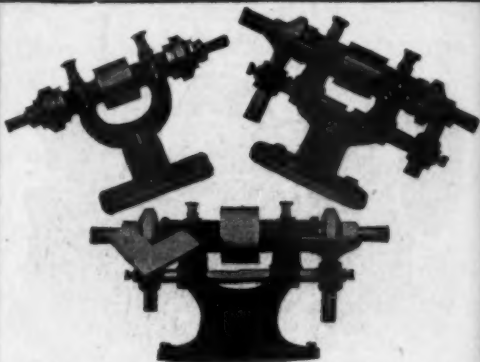
They afford an opportunity for selection. One of the 17 styles and sizes will meet your particular needs.

They are quick to get ready and rapid in operation. They have the strength and endurance for the hardest service.

Tell us your requirements, and we will show you a machine that will do your particular work better, easier, quicker and cleaner than anything you have ever seen.

Put it up to us.

Bignall & Keeler Mfg. Co.
Edwardsville, Ill.



Partridge Emery Grinders

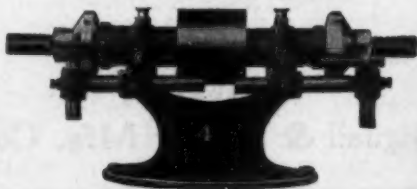
Here are four well-made Bench Grinders, adapted to light, medium and heavy work. Also furnished mounted on column. In addition, I make a high-grade heavy Floor Grinder of the cabinet type, thus being able to meet all demands for this class of tools. They are all well built, of the right materials, and have features of excellence that will interest you.

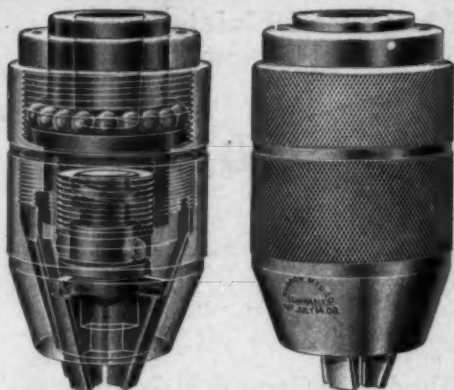
*Tell me your needs in this line, and I will gladly
mail full description and quote interesting price*

E. O. PARTRIDGE

2047-9 Lake Street. - - CHICAGO

Also Foot Presses and Tapping Machines





Morrow Chucks for Economy

If you need a MODERN DRILL CHUCK for rapid and accurate work, get the MORROW. RAPIDITY, ACCURACY, DURABILITY, AND EASE OF OPERATION are the features most prominent in the Morrow ball bearing, self-tightening, quick releasing, hand operated, drill chuck. The best results can only be had by using the best tools. To get the best results, use the "MORROW." The BIGGEST thing in the line of drill chucks. BIG from the standpoint of reliable results. "THE MORROW" has a dozen advantages over the old style key or wrench operated drill chuck. QUICK acting, powerful and easily adjusted. The "MORROW" has so many points of superiority that we won't attempt to enumerate all. They are built for hard continuous duty, and have embodied in their design whatever will increase efficiency or improve the quality of the work.

Made in Five Sizes. Send for Catalogue.

Morrow Manufacturing Co.
Elmira, N. Y.

Mono Rail Hoists and Over Head Track Systems



A five ton hoist operated from cab or floor. Used to transfer material from one building to another, for unloading cars, general yard work, etc.

Mono Rail Hoists and trolleys of all types.

Nothing too large or too small, to receive our careful and prompt attention.

The Euclid Crane & Hoist Company
Euclid, Ohio, U. S. A.

It is Back, Arm and Fingers

To the Shop, Factory, Warehouse, Garage etc.,
Where Heavy Material is Lifted and Lugged.



When one's Portable Crane and Hoist is out of commission, the shop is like a man with the back-ache and a couple of fingers gone. That's why we built

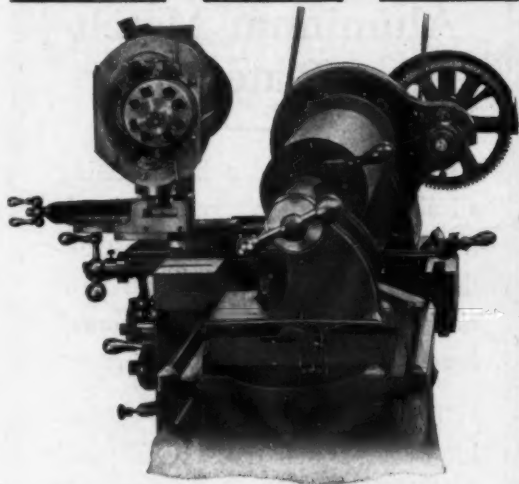
The "Canton"

for our own use, better than we could buy, without thought of selling it to anyone else. But what's the use of hiding a good thing? So we offer it to the trade for our mutual profit.

Try one 30 days; we take all the risk.

The Canton Foundry & Machine Co., Canton, O.

Portable Electric Grinder



Type A2, On Our Special Mounting,
Which will grind rolls as large as lathe will swing.

Adjustments—up-and-down, also at any angle, by means of the angle plate supplied with machine.

Variable Speed—any speed between 2,400 and 3,300 r. p. m. secured instantly while running, by a simple mechanical device—not electrical—without gears or addition of weight, guaranteed never to lose its efficiency.

Heavier Cuts can be made with this tool than with any other portable electric grinder on the market.

No Overheating on continuous run under full load.

Our Grinders are made in four sizes

Send for descriptive circular

The Smith Electric Tool Co.
Cincinnati, Ohio

Our line of high grade Electric Drills now ready for delivery.

Instructions for Making Aluminum Match Plates

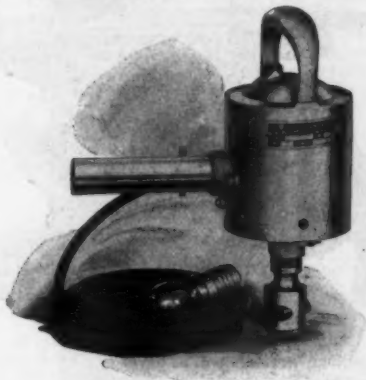
We have issued a book telling all about Cast Iron and Aluminum Match Plates with instructions for making them and running to best advantage on *Farwell Squeezers*.

This type of pattern is becoming very popular and can be used on either benches or squeezers, though the latter will put up many more molds.

You should have a copy of this book and we will gladly send it free of charge to any one who will ask for *Booklet No. 105 H*.

THE ADAMS COMPANY, 123 Second Street,
Dubuque, Iowa, U. S. A.

**Van Dorn "Hard Service"
Drills and Reamers
Electrically Operated**

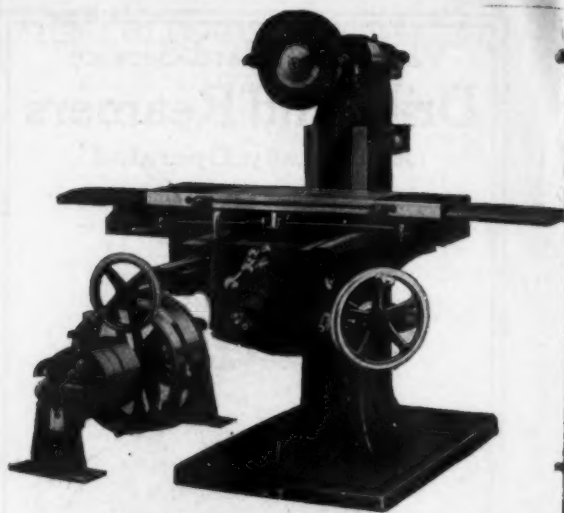


Are you operating to the best advantage in drilling large and heavy parts? You could no doubt save money and time on others by taking a machine to your work, instead of the work to the machine. "Hard Service" drills and reamers are the solution of the problem—your *ultimate* machines if you want *maximum production at minimum cost*.

Write for descriptive matter, information and prices.

The Van Dorn & Dutton Co.
Cleveland

New York - Chicago - Pittsburg - San Francisco



In surface grinders we also make wet machines, hand feed machines and machines of other capacities.

The celebrated **New Yankee Drill Grinders** in over 100 styles, sizes and combinations are one of our best-known specialties. They are cheaper to buy than to be without.

The **Wilmarth & Morman Lathe Center Grinder**, just placed on the market has made a distinct hit. A free treatise on Lathe Center Grinders sent to anyone on request.

Water Tool Grinders, Cutter and Reamer Grinders and combinations of these machines with Drill Grinders assure machines just fitted to the needs of any shop.

A **New General Catalog** just off the press is yours for the asking, but please tell us which lines interest you.

Wilmarth & Morman Co

575 Canal St., Grand Rapids, Mich.

G
you
mill
capa
of c
thou
high
surfa
direc
the
mac

binin
is pe
adap
ever

Grind Out Dollars

Grind them out of your costs into your profits. Reduce your manufacturing time and increase your accuracy on light milling work. Here is a machine strong, massive, rigid—capable of just these results. It has removed one cubic inch of cast iron per minute while working to an accuracy of $\frac{1}{4}$ thousandth over an entire 8x18 inch surface. Its cost is not higher than machines which are only capable of tickling the surface. Capacity $8\frac{1}{2}$ x20 inch. Automatic feeds in both directions, vertical movement indexed by $\frac{1}{2}$ thousandths with the dial coarse enough to read by $\frac{1}{4}$ thousandths and the machine easily capable of working to this accuracy.

Grinding is forging to the front daily as a means of combining lower costs and higher quality. While this machine is perfectly adapted for tool room service, it is equally well adapted to manufacturing work and its price brings it within everyones reach.





No. 81 Machine.

The Grant Mfg. & Machine Co.
Bridgeport, Conn.

\$2 per Year for Four Years

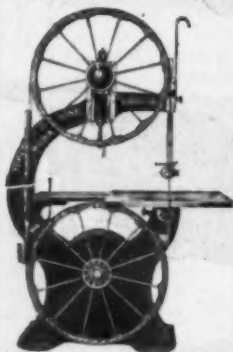
is what it cost one of our customers for replacements and repairs. The machine has been in constant use since first installed and is now in A. 1. condition.

Output 12,000 to 15,000 per day.

Absolutely Noiseless in operation, perfect in finish. no hammer marks or upset shanks.

Send us samples of your work for us to rivet.

Our 1911 catalogue has just come from the press; send for a copy



A Complete Line

of modern Machinery for Pattern Shops, and all wood working plants.

*See our line
before buying*

Superior Machine Wks. Co.
1726 Dickson St., Chicago, Ill.

Special Wood Working Tools

For Pattern Shops

Machines selected for their precision, and adjustability. Built like machine tools, and designed primarily for pattern shop service.

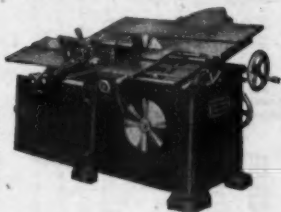
"West Side" Band Saw

Steel wheels, which can neither break, warp, twist or spring; under cut hubs; self-oiling bearings; brass-bushed loose pulley; tilting table; all adjustments made by operator without leaving his position. A band saw widely known for its superiority of design and construction.



Tannewitz Universal Double Saw Arbor

The last word in saw tables for accuracy and convenience. Gauges and adjustments for every possible requirement. A notable improvement upon a type of saw table conceded to be indispensable in every pattern shop.



Porter 20-Inch Jointer

The highest grade jointer or hand planer in market. Patented guard and safety cylinder; specially grooved tables.



We outfit pattern shops complete, guaranteeing the accuracy and efficiency of every tool. Whether you want a full equipment or a single machine, you will find our service helpful.

We shall be pleased to have you consult us

Chicago Machinery Exchange

Manufacturers' Exclusive Representatives

159-161 North Canal Street, Chicago

Can furnish used machines, if desired, carefully rebuilt in our own shops and fully guaranteed.

Osborne Steam Hammers and Trimming Presses

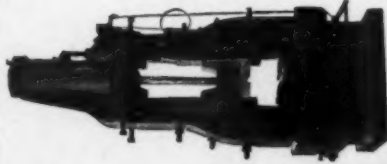
Sold direct to users at prices based on actual shop cost, eliminating usual over-head shop charge and dealer's or jobber's profit.

The Osborne Hammers are made of steel castings throughout, except cylinders, which are semi-steel. Operate equally well with compressed air, and are heavy enough to withstand the hardest duty.

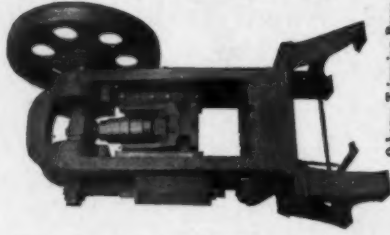
Osborne Trimming Presses are equally well built, of latest design, and sold at a price which will astonish you.

Write for blue prints, photos and full specifications, together with my direct-to-you price proposition.

The Osborne Hammer

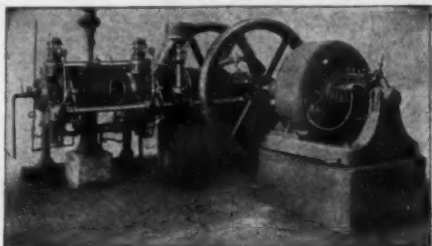


Osborne Trimming Press



Don M. Osborne, Engineers' Bldg., Cleveland, O.

"THE LITTLE **BIG ENGINE"**



States Evidence!

is what one of our competitors calls the "inside" story of gas engines contained in our illustrated book entitled "Efficient Gas Power."

This book, supplemented by our two pamphlets "The Salesman's Angle" and "The Awakening" explain why the gas engine user has had to pay from 15% to 50% more than the builder's price:—How the user can test every claim a salesman makes and get at the real truth: and—Determine for himself the kind and quality of actual horsepower he gets for every dollar he pays.

Book and pamphlets sent free on request to present and prospective users of gas power.

The Elyria Gas Power Co.
Elyria, Ohio

Burke's Bench Miller



Milling Machine

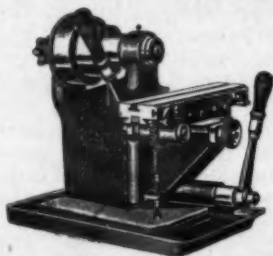
A Seasoned Tool

The tool to buy if you want extreme accuracy and permanent alignment five years hence as well as now. In making this miller the greatest care is taken thoroughly to season all castings both before and after machining. We carry these frames and parts from six to eight months after work begins on them before the final finishing is done. The result is a tool that is accurate and will stay accurate as long as you use it. For precision work it has no equal.

Longitudinal feed, 8½ in.;
transverse feed, 4 in.; vertical
motion of knee, 8½ in.;
table surface, 3½x16 inch.

BURKE MACHINE CO.
Conneaut, Ohio

A Profit Producing Proposition

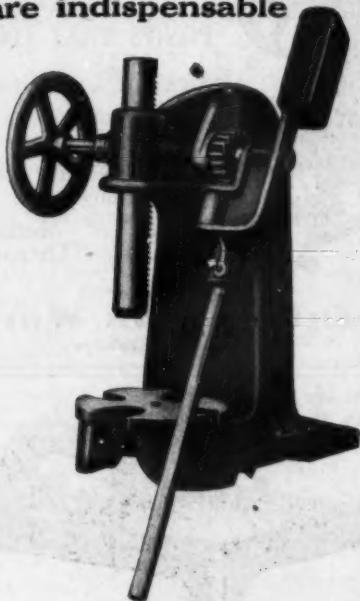


Is our New Model Bench Miller. Carefully designed, thoroughly well made, carefully tested, and a machine which will deliver the goods.

Send for circular

The Carter & Hakes Co.
West Winsted, Conn., U. S. A.

That Greenerd Arbor Presses are indispensable



Is Indubitable

Thousands of dollars saved by the
Thousands of Greenerd Arbor Presses in use.
Thousands of Greenerd Arbor Presses in use save
Thousands of Arbors or Mandrils and
Thousands of Valuable Hours.

Have you one?

Sold by Machinery Dealers Everywhere

Edwin E. Bartlett,
336 A Street, Boston



HIGH DUTY
ROCKFORD
PUNCH PRESSES

POINTS THAT COUNT

Straight Line Frame.

Large Shaft to stand the heavy strains put upon it.

Large Bearing area to insure long service.

Plenty of Metal in Head and Throat.

Other advantages sent on request

Rockford Iron Works
Rockford, Illinois

***Looks like typewriting
Prints through a ribbon***

2,000 and over per hour



A Complete Addressing Outfit

with 500 addresses, \$52.25; with 200 addresses, only \$38.75

The addresses are set in metal type, and you can make your own changes. They can be arranged as desired, indexed, hence are easy to locate. Can either repeat or skip any name, and make carbons. Also foot power and electric machines for large lists.

Description and sample addresses on request.

Cleveland Addressing Machine Co.

1232-1234 E. Third St., Cleveland, Ohio.

**A Little Shop of Your Own
Or
The Big Shop of Ours?
*Which?***

You can not duplicate in years our equipment, our organization, our experience in economical manufacturing, and our Yankee knack of cutting costly corners; but you can have all the advantage of it right now, plus your own time and energy for field work and marketing and your capital for investment in bonds or business.

We'll Make a Contract

that will protect you against defective construction, insure you minimum cost, and guarantee deliveries. See us; write us; let us go over your blue-prints with you; get our figures. If you are not interested, we won't be, for unless we can save you money, we don't want the job.

But isn't it worth a stamp to see?

We don't know your address; ours is—

**C. H. Cowdrey Mche. Works
Fitchburg, Mass.**

One of Uncle Sam's Workmen

THE F. D. BELKNAP

Rotary Addressing Machine

For Office Use

MODEL NO. 3

A machine about the size of a typewriter, which can be operated at a speed of 2,000 or more per hour.

The advantage of this system is that the stencil cards are indexed by states and towns, so that they can be used as reference or record.

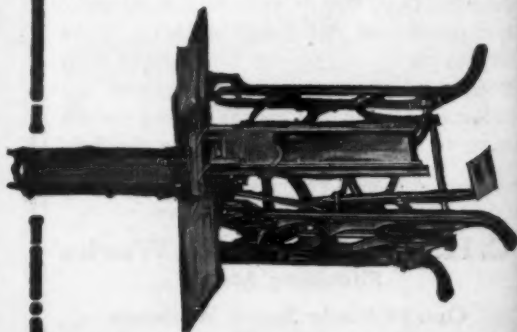
Compiling is done by your stenographer on one of our stencil typewriters, which takes no more time than to address a set of envelopes on an ordinary typewriter.

You make your own list and your own corrections. The simplest, handiest and most economical addressing system in the world.

Write for price and detailed description, giving approximate number of names in your list

Rapid Addressing Machine Co.

291 Broadway, New York 172 Adams St., Chicago



W.

Style



Tu

PATENT



JUNK

Men do not get the caps
Of Tucker's Positive Lock
Compression Grease Cups
They Won't Jar Off

For Automobiles and all
kinds of machinery having ex-
cessive vibration. Sample sent
by mail on receipt of cash,
check or money order.

Made in three sizes

		Price
No. 000	$\frac{1}{4}$ in. $\frac{1}{4}$ in. pipe	\$0.40
No. 00	$\frac{1}{2}$ in. $\frac{1}{2}$ in. pipe	0.50
No. 0	$1\frac{1}{4}$ in. $\frac{1}{2}$ in. pipe	0.60

PATENTED JANUARY 11, 1910

Tucker's Oil Hole Covers

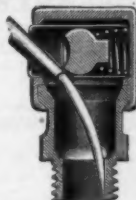


Style C, Self Closing



No. 5 Style B

Self Closing



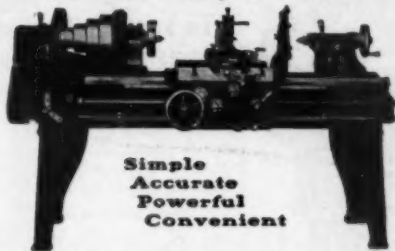
Style A



Send for Catalogue of full line for all kinds
of machinery having oil holes

W. C. & F. C. Tucker, Hartford, Conn.

Standard Engine Lathes



**Simple
Accurate
Powerful
Convenient**

Furnished with either standard cone or with 3-step cone double-back-geared, **carrying a wide belt**, with 18 spindle speeds and wide feed range.

GREAVES, HLUSMAN & CO.
Cincinnati, Ohio, U. S. A.

WHEN YOU INQUIRE

of advertisers herein, won't you kindly remember to say somewhere in your communication that the inquiry comes from Hitchcock's Machine Tool List? Advertisers are human; they like to know that the medium in which they spend their money is received and consulted by machinery users. Not being mind readers, they can only know this when you tell them, and if you neglect to tell them, the Tool List is deprived of credit for the service it has rendered.

O

who a
supply
count
or ide
and co
where
and to

If y
device
Appli
close

This
Equip
the m
office
a buy
is new
equip

Tin
reality
Busin
editor
and sl

to this
bill wi
nical m
you, y
organiz
times a

A sa
dollar
the ser

You
succee

The
P

The Value of Office Appliances

(The Magazine)
to You

who are the buyers and users of office appliances, supplies and furniture—you who pay the bills and count the cost—is not based on theoretical plans or ideas. It is the more tangible value of dollars and cents. Its advertisements tell you just what, where and how to buy to simplify office methods, and to save you money in the doing.

If you are interested in installing the very latest devices for the handling of your detail work, Office Appliances offers the *only* medium of gaining a close technical knowledge of those on the market.

This 140 Page Monthly Magazine of Office Equipment is a touch with the market place of the modern machinery of business; a universal office appliance gazetteer, a manufacturers' index, a buyers' guide, a permanent exposition of all that is newest, oldest or best in the realm of business equipment.

Time spent in reading **Office Appliances** is in reality time saved. A few minutes with your Business Machinery Magazine represents **hours** of editorial time, and an infinite amount of patience and skill in the selective process.

Pin a Dollar Bill

to this advertisement and mail to us today. That dollar bill will bring to your desk for eight months the one technical magazine of all the business world which will keep you, your auditor, your purchasing agent and your entire organization on the firing line of business—abreast of the times and in line with progress.

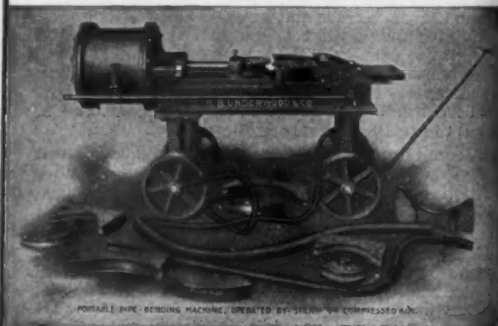
A sample copy is **free** for the asking, but why not pin the dollar bill to this advertisement **today**, and let us start the service at once?

You will see the returns on that dollar grow with each succeeding month.

The Office Appliance Co.
Plymouth Building, Chicago, Ill.

How Do You Bend Pipe?

Our Portable Machine Does It Cold, Without Filling. Does Not Flatten or Split the Pipe



Shops having pipe to bend will find this Bender a most simple and efficient machine, and a big time saver. Works on 80 lbs. steam or air pressure. Bends any size pipe up to 2½ in., cold and without filling. Puts a right angle bend in a 2 in. pipe in two minutes. The piston is forced back by spiral spring, so that front head and piston rod require no packing. Dies are easily changed and adjusted. Locomotive and general repair shops will find this machine reliable for all pipe bending requirements.

Write for our comprehensive catalog of Portable Tools; they are standard

H. B. Underwood & Company
1022 Buttonwood St., Philadelphia, Pa.

Lists of
under the
with a m
the name
Prices an
parties of
slip inclos

New York

10 ft. Niles
\$2 in. Ponce
37 in. Bull

No. 4 Stile
No. 75 Blis
No. 4 V. &

No. 2 Cinc
Pedrick &
No. 5 Garv

International

List on app
Gear cutter
Staff lathes
buffing la
Stillwell N
Hartford 0
Hartford a
Hartford a
Sensitive b
Spring win
Wigways.
Large and
Everything

O. L. Pack

17x11 New
23-36x22, pl
36-50x18 Fin

10 in. Steck
23 in. Barne

10 in. Barker

34x24x5, 2 h

No. 5 Garvis

Bolt cutter,
Gear cutter,
Hammer, st
Keyseater, M

Second-Hand Machinery.

Lists of second-hand machinery, either for sale or wanted, will be published under this heading at the rate of **40 cents a line**, across the page, each issue, with a minimum charge of **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. Prices and full descriptions of the machines listed will be furnished by the parties offering them for sale. If you do not find what you require, use the slip inclosed with each book to make known your wants to the publisher.

FOR SALE BY

New York Machinery Exchange, - 50 Church St., New York City.

BORING MILLS.

10 ft. Niles, 2 heads, vertical.
92 in. Pond, 1 head, vertical.
37 in. Bullard, 2 heads, vertical.

30 in. Bullard, 1 head, vertical.
Betts, horizontal, 4 in. spindle.

PRESSES.

No. 4 Stiles punch press, weight 5,000 lbs.
No. 78 Bliss punch press, weight 4,700 lbs.
No. 4 V. & O. inclinable press.

MILLING MACHINES.

No. 2 Cincinnati, plain.
Pedrick & Ayre, univ., 14x48 table.
No. 5 Garvin, plain.

No. 4 Garvin, plain.
No. 26 Brainard, plain.
No. 2 Van Norman, duplex.

FOR SALE BY

International Watch Co., Ocean Ave. & Ludlow St., Jersey City, N. J.

List on application: E. Bunzl, Treas., 65 Duane St., N. Y. City.

Gear cutters, wheel cutters, pinion cutters, all Sloan & Chase.

Staff lathes, case lathes, bench lathes, spring lathes, watchmakers' lathes, buffing lathes.

Stillwell No. 6 blower.

Hartford 600 screw machines.

Hartford automatic Stehli screw machines.

Hartford automatic stud and pin machines.

Sensitive bench drill presses.

Spring winding machine.

Wigwags.

Large and small Sloan sub presses, foot presses, etc.

Everything as good as new. All bought first handed from manufacturers.

FOR SALE BY

O. L. Peckard Machinery Co., Chicago, Ill., and Milwaukee, Wis.

LATHES.

17x11 New Haven.
22-34x22, plain rest.
36-54x18 Fifeid, compound rest.

72x22 comp. rest, with raising blocks
to increase swing to 130 in.

DRILLS.

10 in. Stecker.
22 in. Barnes, power feed.

5 ft. Bickford universal radial.
5 ft. Cincinnati full universal radial.

SHAPERS.

16 in. Barker.

PLANERS.

24x24x5, 2 heads on cross rail.

MILLERS.

No. 5 Garvin, plain.

MISCELLANEOUS.

Bolt cutter, double, 1 in.
Gear cutter, 36 in. Brainard.
Hammer, steam, 250 lbs. Bell.
Keysater, Morton.

Screw mche., 1 in. P. & W., automatic.
Screw mche., 1 1/2 in. P. & W., p. f.
Shear, bevel, Thompson, for boiler
plate.

SECOND-HAND MACHINERY

FOR SALE BY

**The H. A. Stocker Machinery Co., 566-72 W. Randolph St., Chicago
610 Merrill Building, Milwaukee, Wis.**

Something in this List ought to interest you. Let us know what it is.

LATHES.

- 10x54 Davis (new, but reduced price).
- 12x6 Davis (new, but reduced price).
- 14x8 Lodge & Shipley, like new.
- 14x5 Hendy, good as new.
- 14x5 Hendy, with taper attachment.
- 14x6 Hamilton, compound rest.
- 14x6 Young Mfg. Co., like new.
- 14x6 LeBlond, good order.
- 15x6 Von Wyck, c. r. and chuck.
- 15x5 Star, chuck fitted.
- 16x6 Bradford compound rest.
- 16x6 Davis c. r. (new, reduced price.)
- 16x6 Davis c. r. and tap., reduced pr.
- 16x6 Lodge and Shipley, patent hd.
- 17x6 Economic, compound rest.

- 18x8 Economic, compound rest.
- 18x8 Lodge & Davis, c. r. and taper.
- 18x8 LeBlond, q. c. g. and chuck.
- 18x8 Springfield, c. r. and taper.
- 18x10 Prentice Bros., chuck fitted.
- 20x14 Lodge & Shipley, q. c. g.
- 21x10 Lodge & Davis, c. r. and ch.
- 24x12 Perkins, compound rest.
- 26x16 Putnam, 3 in. raising blocks.
- 24x10 New Haven, comp. rest.
- 32x16 Davis, double back gear, (new, reduced in price).
- 40x16 Fifield, compound rest.
- 40x16 Gleason, compound rest.
- 48x20 New Haven, tr. gd. (low price).

SHAPERS.

- 14 in. Steptoe, single gear, crank.
- 16 in. Walcott, geared.
- 16 in. Hendy, like new.
- 16 in. Queen City, new, reduced pr.

- 20 in. Cincinnati, back geared.
- 24 in. Hendy, triple geared.
- 32 in. Walcott, triple geared.

PLANERS.

- 72x72x14 Niles, 4 hds, A-1 condition.
- 56x56x12 Gray, 2 heads.
- 48x48x20 Belmer, 4 heads.
- 44x44x12 Pond, 2 heads.
- 36x36x12 Gray, 2 heads.
- 36x36x14 Belmer, 2 heads.
- 26x36x10 Gray, 2 heads.
- 32x32x10 Gray, 2 heads.
- 32x32x12 Ohio, 2 heads.

- 30x30x12 Belmer, 2 heads.
- 30x30x10 Flather, 3 heads.
- 28x28x8 Whitcomb (new, reduced pr.)
- 24x24x6 Pond, single head.
- 22x22x6 Wheeler, single head.
- 30x30x5 Hendy, single head.
- 40x38x14 Putnam, old style, low pr.
- 36x30x12 Sellers, old style, low price.
- 22x22x4 New Haven, low price.

MILLING MACHINES.

- No. 6 Whitney, hand.
- No. 10 Pratt & Whitney, hand.
- No. 3 Waltham, bench.
- No. 3 Fox, hand and power.
- No. 13 Garvin, plain.
- No. 0 LeBlond, plain back geared.
- No. 5 Garvin, plain back geared.
- No. 24 Oesterlein, plain back geared.
- No. 3B Owen, double back gear.
- No. 5 Kempsmith, plain, dbl. bk. gr.

- No. 5 Ingersoll, knee type, vertical.
- No. 1 Cincinnati, plain head, univ.
- No. 1 Kempsmith, b. g. universal.
- No. 2 P. & W., Lincoln type.
- No. 12 P. & W., Lincoln type.
- No. 13 P. & W., Lincoln type.
- 22x22x5 Ingersoll, slab.
- No. 2 Thurston, die miller.
- No. 4 LeBlond, universal.
- No. 4 Becker, univ. (new, low pr.)

UPRIGHT AND RADIAL DRILLS.

- 5 ft. arm Western, universal.
- 4 ft. Fosdick, universal.
- 4 ft. Cincinnati, universal.
- 6 ft. Bickford, plain, gear box.
- 5 ft. Bickford, plain, gear box.
- 4 ft. Bickford, plain cone.
- 4 ft. Fosdick, National, plain cone.
- 2 ft. Fosdick, plain.
- 38 in. New H. sl. hd., bk. gr., p. fd.

- 35 in. Blaisdel, sl. hd., bk. gr., p. fd.
- 34 in. Barnes, sl. hd., bk. gr., p. fd.
- 32 in. Aurora, sl. hd., bk. gr., p. fd.
- 28 in. Snyder, sl. hd., bk. gr., p. fd.
- 25 in. Prentice Bros., sl. hd., bk. gr., p. fd.
- 26 in. Hoefler, stationary hd., bk. gr., p. fd.

18-20 in. and smaller.

SENSITIVE DRILLS.

1 to 6 spindles, various makes.

SCREW MACHINES.

- No. 1 Garvin.
- No. 2 Brown & Sharpe.
- No. 2 Pratt & Whitney.
- No. 2 Pratt & Whitney.
- No. 3 Bardons & Oliver.
- No. 51 National-Acme automatic.
- No. 52 National-Acme automatic.

- No. 60 Brown & Sharpe automatic.
- 1 in. Cleveland automatic.
- 1 in. Cleveland automatic.
- 1 in. Gridley automatic.
- 1 in. Gridley automatic.
- 2 in. Cleveland automatic.

Libby,
3x24
20 in. Fa

10 in. Ni
76 in. Be
72-96 in.
60 in. Co
50 in. Co
38 in. Ro

No. 27 N
No. 26 N
C82 Ferr
C94 Ferr
No. 81 C
No. P1 F
No. P2 A

42 in. thr
Humphr
36 in. th

Bolt cutt
Bolt head
Centering
Cutting-o
Gear cutt
Gear cutt
Gear cutt

210-212

19x8 Ame
18x8 Flat
26x8 Perk

14 in. Bar
14 in. Bar
28 in. Pa
22 in. Lod

24x24x6 L

2 in. P. D
4 in. Bord
6 in. P. D

Air comp
Air comp
driven,
Air tank,
Bolt cutt
Bolt head
Boring ma
Bulldoz
Grinder,
Hammer,
Key-way

SECOND-HAND MACHINERY.

H. A. Stocker—Continued.

TURRET LATHES.

Libby, geared head, fine condition.
 24x24 Jones & Lamson, set over hd.
 20 in. Fay & Scott, universal.
 BORING MILLS—VERTICAL AND HORIZONTAL.
 10 in. Niles, 2 heads.
 76 in. Betts, 2 heads.
 72-96 in. Betts, 2 heads.
 60 in. Colburn, 3 heads.
 50 in. Colburn, 2 heads.
 38 in. Rogers, 2 heads.
 18 in. Fay & Scott, universal.
 16 in. Niles, friction geared head.
 7 smaller sizes, various makes.
 34 in. Colburn, swivel turret.
 No. 5 Barrett cylinder borer.
 No. 1 Barrett, double spindle.
 42 in. Niles car wheel borer.
 39 in. Harrington boring machine.

POWER PRESSES.

No. 37 Niagara, 1½ in. stroke.
 No. 36 Niagara, 1½ in. stroke.
 C82 Ferracute, armature notching.
 C94 Ferracute, armature notching.
 No. 81 Consolidated, 1½ in. stroke.
 No. P1 Ferracute, 1½ stroke.
 No. P2 American Can, 1½ in. stroke.
 No. 3 Walsh, o. b. i., 2 in. stroke.
 No. 75 Toledo, open bk., 1½ in. stroke.
 No. 4 American Can, o. b. i., 2½ in. s.
 No. 3 American Can, o. b. i., 2 in. s.
 No. 2 American Can, o. b. i., 2 in. s.
 No. 0 Blake & Johnson arch press.

BEMENT SINGLE END PUNCH AND SHEARS.

42 in. throat, capacity 4x1½ in.
 Humphreys sgl. end punch and shear,
 36 in. throat, capacity 1½x1 in.
 Cincinnati sgl. end punch and shear,
 8 in. throat, capacity 4x1 in.

MISCELLANEOUS.

Bolt cutter, 1½ in. Schlenker.
 Bolt header, 4 in.
 Centering machine, 4 in. Whiton.
 Cutting-off mche., 5 in. Hurlburt & R.
 Gear cutter, 26 in. Brown & S., auto.
 Gear cutter, 34 in. Whiton, auto.
 Gear cutter, 50 in. Gould & E., auto.
 Grinder, plain, 10x7½ in. Landis.
 Hammer, upright helve, 300 lbs.
 Hydraulic press, 40 ton.
 Oil separator, large size.
 Pipe mche., 4 in. Bignall & Keeler.
 Pipe machine, 4 in. Stoeber.
 Pipe machine, 6 in. Saunders.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

210-212 Washington Ave.

St. Louis, Mo.

LATHES.

15x8 American.
 18x8 Flather.
 20x8 Perkins.
 22x12 screw cutting.
 25x26 New Haven.
 36x14 Putnam.

DRILLS.

14 in. Barr, sensitive.
 14 in. Barr, sensitive, two spindle.
 28 in. Pond, sliding head.
 22 in. Lodge & Davis, sliding head.
 30 in. Wm. Gang, radial.
 36 in. Dreses, radial.
 6 spindle Quint drill.

PLANERS.

26x21x6 Lodge & Davis.
 30x30x8 Flather.

PIPE MACHINES.

2 in. P. D. Q. C., Bignall & Keeler.
 4 in. Borden.
 6 in. P. D. Q. C., Bignall & Keeler.
 6 in. Duplex, Bignall & Keeler.
 12 in. Duplex, Bignall & Keeler.

MISCELLANEOUS.

Air compressor, 8x12, belted.
 Air compressor, 960 cu. ft., steam driven.
 Air tank, 36 in. x8 ft.
 Bolt cutter, 1½ in. National.
 Bolt header, 1 in. National.
 Boring machine, horiz., Betts, large.
 Bulldozer, No. 3 Williams & White.
 Grinder, surface, Goddard.
 Hammer, vacuum, 80 lb. Yeakley.
 Key-way cutter, No. 6 Morton.
 Motor, 5 h. p., 220 v., d. c.
 Motor, 15 h. p. Fairbanks, 3 ph., 60 cycle, 220 volt.
 Press, power, No. 4 Am. Can.
 Press, power, 17 in. throat.
 Punch and shear, 42 in. Wickes Bros., cap. 4 in. in ½ in.
 Punch and shear, 48 in. throat.
 Screw machine, ½ in. Cleveland, semi-auto.
 Wheel press, hydraulic, 36 in.

SECOND-HAND MACHINERY

FOR SALE BY

The E. L. Esley Mch Co., 555-557 Washington Blvd., Chicago, Ill.

A partial list of used machinery for quick delivery. We have a large stock of new machine tools not listed here.

BORING MILLS.

60 in. Niles boring machine, complete with face plate jaws and c. a.

37 in. Streit pulley boring machine.

DRILLS.

2 spindle Mechanics 20 in. gang, plain lever feeds, not b. g. nor p. f.

4 spdl. No. 3 Garvin, mult., table fd.

4 spindle Quint turret drill.

6 spdl. No. 3 Garvin, mult., table fd.

4 spindle 20 in. W. F. & J. Barnes

gang drill, all spdls. p. f., 1 sp. b. g.

4 spindle Barnes Drill Co.'s all gd.

gang drill, b. g. and p. f., nearly

new; late pattern.

22 in. Bickford, sliding head, over-

hauled.

18 in. Baker Bros. large capacity high speed drill presses, complete, nearly new, (2)

25 in. Barnes sta'y hd., b. g., and p. f.

26 in. W. F. & J. Barnes, sliding

head, drill complete; fine condition.

28 in. Hamilton, sliding head, back

geared, power feed.

28 in. Moline, sliding head, upright.

34 in. W. F. & J. Barnes, sl. hd., comp.

3 ft. Hilbert, plain, radial, b. g. and

tapping attachment.

ENGINE LATHES.

16 in. x 8 ft. Champion, standard eng.

lathe, b. g., used 14 months.

14x7 Blaisdell, taper attachment.

15x6 Walcott, back geared, rebuilt.

16x6 Muller, hollow spindle, p. c. f.

16x8 LeBlond, pl. rest, 1 1/2 in. hole.

20x6 Flather, overhauled, fine cond.

24x12 Pond, b. g., fine condition.

32x18 New Haven, compound rest.

36x14 Pratt & Whitney, solid spndl.

MISCELLANEOUS LATHES.

No. 21 Garvin, plain head, Monitor,

13-16 in. hollow spindle.

No. 212 in. Foster plain hd. Monitor.

14 in. Monitor, plain head, F. K.

24 in. Gisholt, standard turret, comp.

24 in. Davis chucking, set over p. f.

turret.

28 in. Gisholt, standard turret, comp.

Pearson b. g. hub machine, like

turret lathe, 24 in. h. s.

30 in. Henly pulley lathe, for boring

and turning pulleys.

30 in. x 8 ft. P. & W., pl. hd. chucking

lathe, 24 in. 4-j. chk., p. f. to t. s.

60 in. Niles pulley turning lathe, and

c. s. complete.

MISCELLANEOUS.

Air compressor, 13x8x12 in. Curtis,

belt drive, capacity 161 cubic ft.

per minute.

Air hammer, No. 66 Ingersoll-Rand,

long stroke, nearly new.

Baling press, Champion, for baling

scrap tin or iron.

Blower, steel, No. 16 Sturtevant, 7 ft.

high, 18 in. outlet.

Bolt cutter, 2 in. Bement, single.

Bolt pointer, 1 in. Adams.

Buffing lathe, 2 h. p. motor drive,

110 volts, d. c.

Burr mill, wet tumbling, Ross, bar-

rel 24 in. diam. T. & S. pulleys.

Cold saw, No. 2 Q. M. S., large,

univ., 24 in. blade.

Cold saws, No. 4 Keystone, 4 1/2 in.

Cold saw, No. 14 Higley, fine order.

Gear cutter, 18 in. Becker, spur gears

only, used 3 months.

Grinder, cock, single spell.

Grinder, disc, 20 in. Ransom.

Grinder, 10x48 in. Landis, pl., fine.

Grinder, 20x3 in. Diamond, single

wheel, wet.

Keyseater, No. 1 Davis, fine cond.

Write for our complete list of new and used machinery, and state your wants;

we may have it.

Joseph

Item.

267 Cle

ho

294 Kli

499 Roy

ix

229 Lon

291 Cle

59 H. A

504 H. A

483 No.

292 Spec

SECOND-HAND MACHINERY

FOR SALE BY

Joseph T. Ryerson & Son, - 16th and Rockwell Sts., Chicago

POWER PUNCHES.

Item.

- 287 Cleveland 90 in. multiple punch, 12 in. throat; capacity thirty 13-16 in. holes in $\frac{1}{2}$ in.; motor drive.
 294 Kling No. 2 horizontal punch, 12 in. throat; cap. $1\frac{1}{2}$ x1; belt drive.
 499 Roversford No. 2 double end punch and shear, $7\frac{1}{2}$ in. throat; punch $3\frac{1}{2}$ x $\frac{1}{2}$ in.; shear 6x $\frac{1}{2}$ in.

POWER SHEARS.

- 229 Long & Allstatter 48 in. gate shear, 6 in. gap, cap. 3-16 in.; belt drive.
 291 Cleveland 10 ft. gate shear, 36 in. gap, capacity 3-16 in.; motor drive.
 59 H. Pels & Co. Johns beam shear; cap. 12 in. 35-lb. beams; belt drive.
 564 H. Pels & Co., Johns T 40 beam shears; capacity 15 in., 60-lb. beams.
 483 No. 2 Lennox rotary bevel shear, for $\frac{1}{4}$ in. plate; belt drive.
 292 Special stroke type bevel shears; capacity 1 in. plate.

HYDRAULIC MACHINERY.

- | | |
|---|--|
| 255 Bement-Miles $8\frac{1}{2}$ ft. riveter,
75 tons pressure. | 273 Bement-Miles 10 ton riveter
crane. |
| 263 Morgan 10 $\frac{1}{2}$ ft. riveter, 100 tons. | 272 Morgan 10 ton riveter crane. |
| 267 Hori. punch, 12 in.; cap. $1\frac{1}{2}$ x $\frac{1}{2}$ in. | 262 Worthington duplex steam
pressure pump $18\frac{1}{2}$ x $2\frac{1}{2}$ x10 in. |
| 268 Morgan 48 in. punch, cap. 2x1 in. | |
| 269 Morgan 45 in. pch., cap. $2\frac{1}{2}$ x1 in. | |

PLANERS.

- | | |
|--|--|
| 158 Pond, 26x26x6, heavy pattern,
1 head; belt drive. | 166 Bement, 36x36x7, 2 hds.; belt d. |
| 162 Pond, 32x32x8, 2 heads. | 167 Sellers, 42x42x6 $\frac{1}{2}$, 2 hds.; belt d. |
| 215 Gray, 36x36x10, 2 heads; ar-
ranged for motor. | 169 Sellers, 42x42x9 $\frac{1}{2}$, 2 hds.; belt d. |
| 163 Sellers, 36x36x7, 1 head; belt d. | 137 Sellers, 48x48x8 $\frac{1}{2}$, 2 hds.; belt d. |
| | 285 Niles 20 ft. plate planer; old
style. |

LATHES.

- | | |
|--|---|
| 396 Bradford, 18x8 in. p. r.; p. c. f.,
hollow spindle. | 234 Hendey, 18x10, q. c. gear, hol.
sp.; com. rest; p. c. f. |
| 135 Reed 16x6, hol. sp., p. c. f. | 345 Gray 16x10, hol. sp., p. c. f. |

DRILLS.

- 195 Barr, 3 spindle, sensitive.
 196 Sigourney, 4 spindle, sensitive.
 476 Lodge & Davis, 30 in. sliding head; back geared; power feed.
 394 Bickford, 3 ft., plain radial cone drive, auxiliary table.

PNEUMATIC RIVETERS.

- 290 Allen type toggle; 48 in. reach; 9 in. gap; capacity $\frac{1}{4}$ in. rivets.
 493 Allen jaw riveter; 17 $\frac{1}{2}$ in. reach; 15 in. gap; capacity 1 in. rivets.
 496 Allen compression lever; 9 in. reach; 14 in. gap; capacity $\frac{1}{4}$ in. rivets.
 691 Hanna patented lever; 25 in. reach; 15 in. gap; capacity $\frac{1}{4}$ in. rivets.

MISCELLANEOUS.

- 2 Bending and straightening machine, Cosgrove, capacity 15 in. beams.
 257 Bending rolls, plate, 8 ft. 2 in. Badger; top roll 6 in., bottom rolls 5 in.;
drop housing; hand and belt power.
 213 Boring and drilling machine, horizontal, 4x27x60 in., Beaman & Smith.
 177 Bulldozer, No. 5 Ajax; double geared, outside connected, belt drive.
 376 Concrete mixer; capacity $\frac{1}{4}$ cu. yd.; complete with engine and boiler.
 240 Cornice brake, 8 ft. Geo. A. Ohl, capacity No. 18 gauge.
 490 Grinder, twist drill, Yankee.
 201 Miller, plain, No. 9 Garvin, table 7 $\frac{1}{2}$ x30 in., back geared.
 313 Pipe cutter, No. 5 $\frac{1}{2}$ Merrill, capacity 2 in. pipe, belt drive.
 486 Planer, plain rotary, 26 in. head, No. 1 Newton, arranged for motor.
 206 Profiling machine, No. 2 Pratt & Whitney.

SECOND-HAND MACHINERY

FOR SALE BY

W. L. Perkins Jr. & Co., 136 Liberty St., New York City, N. Y.
LATHES.

8x2 speed lathe, power feed.
12x4 aut. threading, good as new.
12x5 Pond, r. & f. r., screw cutting.
13x5 Prentiss, r. & f. r., h. sp. 1½ in. hole.
13x5 speed lathe, complete, Amer.
14x4 speed lathe, complete, Garvin.
14x6 Reed, r. & f. r., screw cutting.
15x6 Standard, c. r., h. sp. 15-16 hole.
16x8 Bradford, compound rest.
16x8 Harrington, pl. r., screw cutting.
18x8 Bradford, compound rest, latest.
18x8 Reed, plain rest.
20x8 Pond, c. r., cross fd., heavy.
20x9 Pond, c. r., cross fd., heavy, 18 in. chuck fitted.
20x12 Pond, c. r., cross fd., heavy.
21x10 Schumacher & B., qk. change, taper att., c. r., cross fd., chuck.

20x20 Worcester, pl. rest, complete.
22x10 Harrington, c. r., cross feed, screw cutting.
25x12 Harrington, compound rest.
26x10 Pond, compound rest.
26x12 Blaisdell, compound rest.
28x14 Schumacher & B., qk. change, table, b.g.
28x15 Worcester, comp. rest, heavy.
30x14 Bement, c. r., cross fd., heavy.
30x14 Bradford, c. r., taper attach.
30x15 Sellers, comp. rest, cross feed.
30x17 Pond, comp. rest, heavy.
30x23 Pond, comp. rest, heavy.
32x13 Pond, chuck fitted.
32x14 Harrington, comp. rest.
34x8 Johnson, trip. gd., comp. rest.
34x12 Fitchburg, cross fd., cp. rest.

PLANERS.

16x16x3½ Bridgeport, 1 hd., auto fds.
17x17x3 Bement, crank.
22x22x5 Worcester, 1 head, auto. fds.
24x24x6 Sellers, 1 head, auto. feeds.
24x24x6 Pease, heavy pattern, 1 hd., auto. feeds.
26x26x6 Putnam, 1 hd., auto. feeds.
26x26x7 New Haven, heavy, modern type.

27x27x7 Whitcomb, 1 head.
30x26x7 Putnam, 1 head.
30x28x7 Sellers, 2 heads.
30x30x8 Sellers, 1 head.
32x32x8 Pond, 2 heads.
32x32x10 Pond, 2 heads.
36x36x8 Pond, 1 head.
36x36x8 Pond, 2 heads.
36x36x11 Sellers, 2 heads.

SHAPERS.

12 in. crank, Gould & Eberhardt.
12 in. traveling head, Fitchburg.
14 in. traveling head, Fitchburg, 28 in. feed.

20 in. Putnam, friction geared.
20 in. crank, Gould & Eberhardt.
26 in. crank, Steptoe, heavy extension base, table support.

MILLING MACHINES.

No. 3 Becker-B., univ., new model.
Mfrs' style, Newton, heavy, plain, 4,000 lbs.

Lincoln, Garvin, without vise.
Knee type, stand. pattern, P. & A.
Valve miller, Newton.

TURRET LATHES.

12x5 Bardons & Oliver, plain head, auto. chuck 1 in.
16 in. Pratt & Whitney, 2½ in. wire feed.
18x6 American Tool & M. Co., for brass work, compound, turret with setover and swivel motion.

UPRIGHT DRILLS.

14 in. Barr, sens., chk. cap. to ½ in.
24 in. Standard, sliding head., b. g.
32 in. Pond, sliding head, b. g.
30 in. Aurora, sliding head, b. g.
26 in. Gould & E., sliding hd., b. g.
38 in. New Haven, sliding hd., b. g.

44 in. Sellers, standard head, b. g.
50 in. Harrington, sliding hd., auto. feeds, back geared.
8-sp. multiple, cap. 1½ in. A 1 cond.
4-spindle gang, table feed.
2 head, Bement, heavy frame.

GRINDERS.

Cutter grinder, Cleveland.
Univ. cutter and tool, Cincinnati.
Car wheel grinder, dbl. hd., Sp'g field.

Surface grinder, automatic, Walker, table 24x64.
Plain type grinder, 19x9x3.

BOLT AND NUT MACHINES.

1½ in. bolt cutter, with pumps, taps, dies and extras.

1½ in. bolt header, Ajax.
6 in. sp. nut tapper, upright, Acme.

SAWS.

No. 1 cold saw, capacity 3 in. round, Lucas.

Burr cold saw, cap. 3½ in.
Hack saw, standard size.

BOILERS.

100 h. p. water tube style, Heine.
150 h. p. water tube style, Heine.

190 h. p. water tube style, Sterling.

Corliss
Corliss
Corliss-
Vertical
Automat
Automat

Worthing
Worthing

Boring m
Cylinder
in. Sel
Centerin

Frank T

No. 1 Bro

1500 lb. f
frame
800 lb. Be

12x6 Hen
ment.
Hx5 Hen
ment.

Pipe mac
Planer, 30

J. W. W

12x5 plain
16x8 LeBl
16x8 Brad
18x10 Bra

15x15x36 i
24x24 in. x
24x24 in. x

No. 3 Sw
No. 27 Sw

No. 14 Ba
2x24 Jone

3½ ft. Fos

5 h. p. Wa
5 h. p. Ft. V

Blower, N
Bolt cutte
Cock grin
Cutter grin
Hammer,

SECOND-HAND MACHINERY

W. L. Perkins Jr. & Co.,—Continued.

ENGINES.

Corliss 18x30 Dickson, with band wheel, 10 ft.x26 in.
Corliss 16x30 in. Dickson.
Corliss-tandem compound, Green, 14x26x48 in., band wheel 18 ft.x28 in.
Vertical 12x24 in. Dickson, fly wheel 18x28 in.
Automatic 11 in.x18 ft., wheel 66x16 in.
Automatic 10x16 in., center crank, wheel 60x11 in.

PUMPS.

Worthington duplex 6x4x6.
Worthington duplex 12x8x12.

Dudley, 12x8x12.
Blake hydraulic, 14x2x12.

MISCELLANEOUS.

Boring machine, cap. 62 in., Niles.
Cylinder boring machine., cap. 50 in. Sellers.
Centering machine, 4½ in. Whiton.

Cupola, 46 in., complete.
Pipe machine, 4 in., with dies, Cox.
Blowers, magnetic separator, wood lathe, pattern lathes, etc.

FOR SALE BY

Frank Toomey, Inc., 127 N. Third St., Philadelphia, Pa.

MILLING MACHINES.

No. 1 Brown & Sharpe, universal (2). 36 in. x12 ft. heavy slab miller.

HAMMERS AND RADIAL DRILLS.

1500 lb. Bement & Miles double frame hammer. 36 in. Morris radial drill.
800 lb. Bement M. & Co., sgle frame. 48 in. Gang radial drill (2).

LATHES.

12x6 Hendey, tool room, full equipment. 18x8 Rahn-Carpenter.
14x5 Hendey, tool room, full equipment. 20x8 Schumacher & B., blocked to 26 in., with turret attachment.
24x10 modern, blocked to 34 in.

MISCELLANEOUS.

Pipe machine, 10 in. Cox.
Planer, 30x30x6 Bement.

Shaper, 20 in. Smith & Mills.
Shaper, 26 in. Gould & Eberhardt.

FOR SALE BY

J. W. Wright & Co., 2nd and Morgan Sts., St. Louis, Mo.

LATHES.

18x5 plain turret. 20x12 Gray, compound rest.
16x6 LeBlond, compound rest. 24x12 Fitchburg, compound rest.
16x8 Bradford, plain rest. 42x15, compound rest.
18x10 Bradford, compound rest.

PLANERS AND SHAPERS.

15x15x26 in. New Haven. 36x36x12 Gray, shop worn only.
24x24 in. x6 ft. Whitcomb. 56x56x12 ft. Gray.
24x24 in. x 8 ft. Pease, 2 heads.

PRESSES.

No. 2 Swaine, foot (7). No. 35 Swaine, power.
No. 27 Swaine, power (2). Small presses, power (2).

SCREW MACHINES.

No. ¼ Bardons & Oliver, 2½ in. capacity, A-I.
2x24 Jones & Lamson.

DRILLS.

¾ ft. Fosdick, radial.

MOTORS.

5 h. p. Wagner, a. c., 220 v., 60c., s. p. 5 h. p. Fairbanks, a. c., 220v., 60c., 3p.
5h. p. Ft. Wayne, a. c., 220v., 60c., 3p. 50 light dynamo.

MISCELLANEOUS.

Blower, No. 2 Roots.
Bolt cutter, 1½ in. National, double.
Cock grinder.
Cutter grinder, Cincinnati.
Hammer, power, No. 4 Perfect.

Pipe machine, 2 in. Jarecki.
Tapper, ½ in. W. & R.
Vise, No. 5-F., B. & S.
Wheel press, 500 ton.

SECOND-HAND MACHINERY

FOR SALE BY

Marshall & Huschart Machinery Company.

17 S. Jefferson St., Chicago.

334 N. Capitol Ave., Indianapolis.

915 Chemical Bldg., St. Louis. 418 Railway Exc., Milwaukee.

BOLT CUTTERS.

1 in. National, single head.

1 1/2 in. Adams, single head.

1 1/2 & 2 in. Acme, single head.

1 1/2 in. Webster & Perks, dbl. head.

BORING MILLS.

No. 4 Betts, cylinder borer.

14-20 ft. Niles extension b. & t. mill.

No. 1 Pawling & Harnischfeger, horiz. boring and drilling machine.

DRILLS.

18 in. Barnes, lever feed, r. a. drive.

10 in. Barnes, friction.

25 in. Barnes, b. g., p. f., auto stop.

26 in. Mechanics, slid. hd., p. f., b. g.

3 spindle Redington, sensitive.

2 sp. Henry & W., high sp., ball b.

2 spindle Rim.

2 spindle Baker Bros., heavy pattern.

GEAR CUTTERS.

No. 1 D. E. Whiton automatic, for spurs and bevel.

No. 2 D. E. Whiton automatic.

40 in. x 9 in. G. & E., Victoria type.

GRINDERS.

American twist drill.

Garvin, cutter.

No. 3 Diamond, water.

No. 6 Diamond.

No. 7 Ransom.

Barnes water tool.

20 in. Ransom, water.

12 in. x 32 in. Landis, plain.

No. 4 Landis universal, good as new.

No. 50 Saxon, cylinder.

14 in. duplex, wet and surface.

HAMMERS.

Bradley, strap.

50 lb. Williams & White, spring.

150 lb. Williams & White, rope drop.

800 lb. Ferris & Miles, steam.

LATHES.

11 in. x 4 ft. screw cutting.

18 in. x 10 ft. Hamilton, with hexagon turret on shears.

24 x 12 Lodge & S., pat. hd., taper att.

25 in. x 20 ft. Putnam.

30-36 in. x 16 ft. Bradford.

36 in. Niles, pulley.

38 in. x 14 ft. New Haven.

32-42 in. x 18 ft. LeBlond.

48 in. x 22 ft. Fifield, triple geared.

Pond, axle.

Bement, axle.

TURRET LATHES.

20 in. x 6 ft. Garvin, p. fd. to turret.

2 x 24 in. Jones & Lamson, flat turret.

25 in. Pond.

25 in. Gisholt.

42 in. New Haven.

MILLERS.

No. 2 1/2 Newton duplex.

No. 3 Cincinnati, plain.

No. 4 Garvin, plain.

15 in. x 8 ft. Keystone slab.

2 spindle Ames, profiler.

2 spindle Pratt & Whitney, profiler.

PIPE MACHINES.

2 in. Saunders.

3 in. Saunders.

2 1/2 in. to 6 in. Curtis.

No. 7 Jarecki.

PLANERS.

16 x 16 x 4 Hendey, spur gear dr., 1 hd.

24 x 22 x 4 Rumsey, 1 head.

24 x 24 x 7 New Haven.

27 x 27 x 7 ft. 6 in. New Haven.

30 x 30 x 5 Pond, 1 head.

36 x 36 x 10 Pratt & Whitney, 1 head.

60 x 72 x 16 1 head.

PRESSES.

No. 2 R. & K., inclinable.

No. 119 Crosby, inclinable.

No. 1 Cady.

C-5 Ferracut.

No. 79 Bliss, 7 in. stroke.

Barnes screw press.

SCREW MACHINES.

1 1/2 in. Bardons & Oliver.

No. 3 National-Acme automatic.

1 1/2 in. Cleveland automatic.

Pratt & Whitney automatic.

MISCELLANEOUS.

Cold saw, 12 in. Cochrane-Bly.

Cut-off machine, axle, Bement.

Hack saw, No. 4 O. & C.

Hack saw, 12 in. Hoefer.

Keyseaters, Nos. 2 and 00 Baker.

This is only a partial list. Send for complete list of second-hand tools. Also large stock of new machines. See our demonstration room.

Keyseater, 20 in. Morton.

Metal band saw, Thompson.

Shaper, 16 Smith & M., b. g.

Shaper, 24 in., Walter Bros.

Slotter, 10 in. Putnam.

Front

9x44 Star

12x5 Ch

14x5 Fay

14x6 Loc

15x6 Por

18x8 He

18x10 Pe

cross f

20x9 Fay

power

20x8 Fis

20x10 Bu

21x8 Por

26x12 Fis

26x14 Pe

cross f

27x12 Pr

27x16 Fa

power

28x10 Gl

No. 1 H

No. 2 L

No. 3 P

No. 2 C

No. 3 Ci

No. 4 Ga

Foote-B

Baker Br

20 in. Pra

28 in. Ne

15 in. He

18 in. Put

12 in. Gou

No. 1 Sch

4 in. No.

22x22x4 P

21x24x7 P

30x30x6 P

30x36x10 P

32x32x8 P

50 lb. Bra

2 in. Bigna

Boring mi

Cold saw,

Engine, g

Engine, st

Grinder, c

Grinder, d

SECOND-HAND MACHINERY

FOR SALE BY

Prentiss Tool & Supply Co., New York, Boston, Buffalo, Syracuse.

LATHES.

- | | |
|---|---|
| 9x44 Star, plain rest, p. c. f. | 33x17 Lathe & Morse, c. r., p. c. f. |
| 12x5 Champion, comp. rest, p. c. f. | 32x17 Bement, triple geared, compound rest, power cross feed. |
| 14x5 Fay & Scott, rise & fall. | 36x16 Reed, compound rest, power cross feed. |
| 14x6 Lodge & Shipley, patent head. | 32x17 Bement triple geared, compound rest. |
| 15x6 Porter, compound rest, p. c. f. | 37x18 Sellers, compound rest, power cross feed. |
| 18x8 Hendey, comp. rest, p. c. f. | 38x20 Fay & Scott, compound rest, power cross feed. |
| 18x10 Perkins, compound rest, power cross feed. | 40x18 Newark, triple geared. |
| 20x8 Fay & Scott, compound rest, power cross feed. | 46x38 Fitchburg, triple geared. |
| 20x8 Fish, comp. rest p. c. f. | 84x20 compound rest, power cross feed. |
| 20x10 Bullard, compound rest. | 103x35 Bement, triple geared. |
| 21x8 Porter, c. r., power cross feed. | 16 in. x 10 ft. automatic threading lathe. |
| 26x12 Fish, compound rest. | 60 in. Stevens pulley lathe. |
| 28x14 Perkins, compound rest, power cross feed. | 7x32 Sloan & Chase bench lathe. |
| 27x12 Pratt & Whitney, plain rest. | 20x8 Fay & Scott, pattern makers. |
| 27x16 Fay & Scott, compound rest, power cross feed. | |
| 28x10 Gleason, compound rest. | |

MILLERS.

- | | |
|------------------------------------|----------------------------------|
| No. 1½ Hendey, plain, back geared. | No. 4 Burke, bench. |
| No. 2 LeBlonde, plain, back gear. | No. 9 Kempsmith, plain. |
| No. 2 P. & W., Lincoln pattern. | No. 12 Brown & Sharpe, plain. |
| No. 2 Garvin, hand. | No. 24 Brown & Sharpe, plain. |
| No. 3 Cincinnati, plain. | 2 spindle American valve miller. |
| No. 4 Garvin, manufacturers type. | 28x20x6 P. & W., slab miller. |

DRILLS.

- | | |
|-------------------------------------|-----------------------------------|
| Foot & Burt, high speed. | 60 in. Bickford, stationary head. |
| Baker Bros. high speed. | 5½ ft. Niles, universal drill. |
| 20 in. Pratt & Whitney, back gears. | 4 spindle Fox, sensitive. |
| 28 in. New Haven, sliding head. | 10 spindle Gardam, adjustable. |

SHAPERS.

- | | |
|--------------------------|--------------------------------------|
| 15 in. Hendey, friction. | 26 in. Lodge & Davis, shifting belt. |
| 18 in. Putnam, friction. | 28 in. Cincinnati, geared. |

GEAR CUTTERS.

- | | |
|---------------------------------|---------------------------------|
| 12 in. Gould & Eberhardt, hand. | 30 in. Gould & Eberhardt, auto. |
| No. 1 Schuchardt, gear hobber. | 60 in. Gould & Eberhardt, spur. |

AUTOMATIC SCREW MACHINES.

- | | |
|-----------------------------|------------------------|
| 4 in. No. 52 National-Acme. | 4 in. Pratt & Whitney. |
|-----------------------------|------------------------|

PLANERS.

- | | |
|-------------------------------|--------------------------------|
| 22x22x4 Powell, 1 head. | 33x33x8 Betts, 1 head. |
| 24x24x Putnam. | 48x42x8 Farrell, 1 head. |
| 20x30x6 Pond, 1 head. | 48x48x15 Pond, three heads. |
| 26x36x10 L. W. Pond, 2 heads. | 54x54x16 Gleason, three heads. |
| 32x32x8 Pease, 1 head. | 15 ft. plate planer. |

HAMMERS.

- | | |
|--------------------------|----------------------|
| 80 lb. Bradley, compact. | 600 lb. Erie, steam. |
|--------------------------|----------------------|

PIPE MACHINES.

- | | |
|-------------------------|----------------|
| 2 in. Bignall & Keeler. | 3 in. Jarecki. |
|-------------------------|----------------|

MISCELLANEOUS.

- | | |
|------------------------------------|---------------------------------|
| Boring mill 10 in. Pond. | Grinder, No. 11 Brown & S., pl. |
| Cold saw, 24 in. Newton. | Hammer, steam, 600 lb. Erie. |
| Engine, gas, 8 h. p., Fairbanks. | Profiler, 1 spindle, Garvin. |
| Engine, steam, 8x10 in. Ide. | Slotter, 13 in. Bement. |
| Grinder, cylinder, No. 60 Heald. | Slotter, 16 in. Bement, crank. |
| Grinder, disc, 18 in. No. 4 Besly. | |

SECOND-HAND MACHINERY

FOR SALE BY

Niles-Bement-Pond Company, . . . 111 Broadway, New York.
Located at Chicago, Boston and New York.

LATHES.

B. & D. single axle lathe.
 No. 2 Bement double axle lathe.
 No. 3 Putnam extra heavy axle lathe.
 10x5 Champion, standard.
 13x6 P. & W., r. and f. rest, taper.
 14x5 American, square arbor.
 14x6 F. B. Miles, comp. rest.
 16x6 speed lathe.
 17x8 Greaves Klusman, comp. rest.
 18x6 Blaisdell, rise and fall rest.
 19x6 D. W. Pond, turret pool post.

20x10 LeBlond, old style.
 21x6 Bridgeport, turret boring.
 21x8 Star, turret carriage.
 22x10 F. B. Miles, comp. rest.
 22x12 Niles, back geared.
 22x16 Fitchburg.
 21 and 48 in. Harrington, gap, boring and chuck.
 36 in. Niles car wheel borer.
 42 in. Niles steel car wheel lathe.
 42 in. x22 ft. Niles, tr. gd.

TURRET MACHINERY.

3 in. No. 0 Hartford, automatic.
 3 in. No. 00 Hartford, Pratt & Whitney, automatic.
 3 in. No. 0 Pratt & W., wire feed.
 x1 in. National-Acme, 4 spindle, automatic.
 3 in. No. 1 P. & W., wire feed.
 3 in. No. 1 Garvin, wire feed.
 3 in. No. 1 Spencer, turret, auto.

4x4 in. P. & W., tur., new mod.
 2 15-16 in. No. 3 Niles, screw mche.
 20 in. x7 ft. 6 in. F. E. Reed, chucking lathe.
 24 in. Conradson, semi-automatic.
 28 in. size J, Gisholt.
 28 in. x12 ft. Milwaukee, turret lathe.
 21-32x14 in. No. 2 Brown & Sharpe, automatic.

PLANERS.

17x17 in. x4 ft. Whitcomb.
 26x23 in. x16 ft. Ferris & Niles, 2 hds.
 30x30 in. x24 ft. Sellers, 2 heads.

32x32 in. x14 ft. Niles.
 48x48 in. x16 ft. Belmar Eames, 4 hds.

SHAPERS.

15 in. Hendey, friction.

18 in. Cincinnati, dbl. hd., traverse.

DRILLS.

13 in. No. 1 sensitive friction, 110 volt, d. c. motor.
 30 in. Gould & E., sliding head.
 36 in. Gould & E., sliding head.
 48 in. Niles, sliding head.
 Prentiss port. univ. rad., cap. 2 in.
 4 ft. 6 in. Barr, plain radial.
 5 ft. 6 in. Niles, semi-universal.
 6 ft. 10 in. Niles No. 2, semi-univ.
 7 ft. 6 in. Niles No. 3, full univ.

10 in. 2 spindle Slate, sensitive.
 12 in. 2 spindle Foote-Burt, sensitive.
 14 in. 3 spindle Garvin, gang.
 14 in. 4 spindle D. P. N.
 17 in. 4 spindle J. & L., gang.
 14 in. 6 spindle No. 3 Garvin, gang.
 6 spindle special Langelier.
 No. 10. 10 spindle Pratt & Whitney cap. 1 15-16 in., 220 v., d. c. motor.

BORING MILLS.

36 in. No. 2 Brown & S., vert. turret.
 Nicholson & Waterman boring machine, 3 in. spindle.
 Kelly horizontal, 2 in. spindle.

Bement & Son horiz., 2 1/2 in. spindle.
 Stearns 96 in. special cylinder borer.
 10 ft. Niles boring & turning mill.

GRINDERS.

14x2 in. Gould & E., water tool.
 18x2 in. Pedrick, double wet tool.
 24x3 in. Pedrick, double wet tool.
 20x1 1/2 in. Ransom, water tool.

3 in. Sellers drill grinder.
 Diamond polishing stand.
 No. 0 Northampton polishing jack.

MILLING MACHINES.

No. 2 Brown & Sharpe, universal, 20x16x16 in.
 No. 4 1/2 Becker-Brainard, plain, 24x7x16 in.

No. 2 Garvin, plain, 31 1/2x5x16 in.
 Garvin single spindle profiler, table 21x24 in.

STEAM ENGINES (New.)

10x10 28 h. p. horizontal single cylinder c. c. automatic.
 12x12 45 h. p. horizontal single cylinder c. c. automatic (2).
 12x12 45 h. p. horizontal single cylinder c. c. throttling (2).

SECOND-HAND MACHINERY

Niles-Bement-Pond Company—Continued.

MISCELLANEOUS.

Bicycle tube hand rolls.
Cut-off machine, 2½ in. Betts.
Cut-off machine, ¾ in. Hurlbut & Rogers.
Forging machine, 2 in. Blakesly.
Hack saw, No. 2 Robertson.
Hammer, steam, double frame, 5,000 lb. Bement.
Hammer, power, 350 lb. Lingle.
Iron forge on legs, 28x13x8 in.

Pipe machine, 6 in. Cox.
Planer vise, 16x3½ in.
Planer vise, 10x2 in., swivel base.
Punch and shear, combination, power, ½ in. capacity.
Spiral spring winding mche., Shuster.
Tapping machine, horizontal, No. 1 Garvin.
Vulcanizer, rubber, Hartford, small.

FOR SALE BY

The Motch & Merryweather Machinery Company,
707-715 Lakeside Av., N. W., Cleveland, Ohio
Branches: Detroit, Cincinnati, Pittsburg.

We offer for sale the following refitted machine tools:

BORING MILLS.

30 in. Bullard, plain table (2). 42 in. Bullard, rapid production.

BROACHING MACHINES.

No. 1 vertical Standard. No. 3 Lapointe.

DRILL PRESSES—UPRIGHT.

20 in. Barnes.
32 in. Barnes.
28 in. Rockford, good as new.

RADIAL DRILLS.

4 ft. Box, half universal. 5 ft. Pond, heavy.

GEAR CUTTERS.

22x9 in. x 4 p. Gould & Eberhardt.
30x10 in. x 3 p. Gould & Eberhardt.
20 in. Rhenania gear hobber.

GRINDERS.

No. 1 Cincinnati, cutter, complete.
No. 1 Landis, internal.
No. 24 Landis, plain, swivel head.
No. 2 Leland & Faulconer, wet tool.
"A" Yankee drill grinder.
"PO" Yankee drill grinder.
No. 11 Brown & Sharpe, plain (2).

LATHES—ENGINE.

13x5 Willard, compound rest.
14x6 Hendey, plain rest, taper att.
19x8 Greaves & Klusman, good as new.
20x8 Flather, 4 step cone, belt feed, compound rest.
22x12 Lathe & Morse, 4 step cone, belt feed, compound rest.
22x15 Pond, compound rest.
24x6 Bogart, heavy, double tool posts.
42x16 Hamilton, triple geared.

MILLING MACHINES.

No. 3 Brown & Sharpe, vertical, new.
No. 2½ Garvin, plain.
No. 1 Eynon, plain.
No. 2 Osterlein, plain.

PLANERS.

10 in. Busch, crank, swivel vise.
24x24x6 Ohio, one head.
24x24x6 Whitcomb, 1 head.
27x5 New Haven, 1 head.
74x36x20 L. W. Pond, 2 heads.

SHAPERS.

15 in. Smith & Mills, single geared crank.
10 in. Steptoe, crank.
16 in. Gould & Eberhardt, crank.
20 in. Kelly, crank.
24 in. Gould & Eberhardt.
24 in. Ohio, shifting belt.
28 in. Hendey, friction.
32 in. Gould & Eberhardt.

TURRET LATHES.

7x14 Potter & Johnson.
16x5 Mueller, plain rest, turret on shear and chuck.
24 in. Universal, chuck fitted.
24 in. Lodge & Shipley screw mach.
28 in. Gisholt, rapid traverse.
44 in. Grant chucking lathe.

MISCELLANEOUS.

Pneumatic gap riveter, 10x37 in. Belt lacer, 17 in. Peerless.
Chicago.

SECOND-HAND MACHINERY

FOR SALE BY

J. J. McCabe,

30 Church St., New York City

LATHES.

- 36 in. swing, 20 ft. bed American, blocks 43 in., taper att., c. r., jaws fitted.
 36 in. swing, 26 ft. bed Fay & Scott, compound rest, 2 in. hole, jaws fitted.
 38 in. swing, 14 ft. bed Harrington plain turning lathe, heavy.
 38 in. swing, 15 ft. bed Fifield, triple geared, weight 10,000 lbs.
 38 in. swing, 16 ft. bed Bement, heavy, compound rest.
 42 in. swing, 18 ft. bed Johnson triple geared, blocks 48 in., heavy, jaws fitted.
 48 in. swing, 12 ft. bed Harrington triple geared, heavy, compound rest.
 48 in. swing, 24 ft. bed Fitchburg, blocks 66 in. triple geared, compound rest.
 50 in. swing, 32 ft. bed Putnam triple geared, compound rest, heavy.
 52 in. swing, 28 ft. bed Newark triple geared, for heavy work.
 54 in. swing, 21 ft. bed Fitchburg, blocks 70 in., triple geared.
 54-64 in. swing, 36 ft. bed Bement triple geared, compound rest.
 70-80 in. swing, 18 ft. bed Fitchburg, compound rest, heavy, blocks about 90 in., still in operation.
 100 in. swing, 30 ft. bed Niles-Bement-Pond, triple geared; cost new \$12,000.

PLANERS.

- 36x36x8 Pond, heavy, 1 head.
 36x36x8 Pond, extra heavy, 2 heads.
 36x36x10 Bement-Miles, 2 heads.
 36x36x11 Sellers, spiral drive, 3 hds.
 36x36x12 Gray, extra heavy, 2 heads.
 36x36x12 Niles, extra heavy, 3 heads.
 36x36x26 Sellers, 2 heads.
 36x36x30 Pond, 4 heads.
 38x38x10 Betts, 2 heads.
 42x42x14 Pond, 2 head.
 42x42x18 Niles, 2 heads.
 48x48x7 Sellers, spiral drive, 1 head.
 54x54x16 Bement, 2 heads, 1 on rail, 1 on housings.
 54x54x18 Sellers, spiral drive, 4 hds.
 72x72x26 Sellers, spiral drive, 4 hds.

MILLING MACHINES (PLANER TYPE).

- 22 in.x5 ft. Ingersoll slab, complete.
 24 in.x6 ft. Bement.
 30 in.x14 ft. Bement.
 36 in.x12 ft. Pratt & Whitney, heavy.
 36 in.x11 ft. Newton, heavy.

TURRET LATHES.

- 32-50 in. Gisholt, gap bed, with carriage and turret.
 32 in. American, Gisholt style, with chucks and tools.
 27 in. American, Gisholt style, with chucks and tools.
 2x24 in. Warner & Swasey hex. turret lathe, with tools.
 2x24 in. Jones & Lamson flat turret lathe, regular equipment.

RADIAL DRILLS.

- 3 ft. arm, "Standard Pattern" Fosdick with table.
 4 ft. arm, Niles, half-universal with table.
 4 ft. arm, Bement, automatic feed, plain.
 5 ft. arm, Bement-Miles, full universal, with table.
 5 ft. arm, Prentice, plain.
 6 ft. arm, Bausch Standard, heavy pattern with table, weight 14,000 lbs.
 7 ft. arm, Niles heavy pattern, complete.

UPRIGHT BORING MILLS.

- 36 in. Bullard, 1 head.
 37 in. Niles, 2 heads.
 42 in. Bullard, turret head.
 54 in. Colburn, with jaws, A-1 cond.
 84 in. Bement, 1 head.
 100 in. Niles, 2 heads.
 120 in. Niles, 2 heads.

HAMMERS (STEAM).

- 800 lb. Bement.
 3,500 lb. double-frame, Bement.
 4,000 lb. Sellers.

BOILER SHOP TOOLS.

- 8 in. punch and shear, double end, Long & Allstatter.
 9 in. punch, capacity 1 1/2 in., spacing table and rack, Hilles & Jones.
 15 in. punch, double end.
 19 in. punch, No. 5 Long & Allstatter.
 24 in. punch, No. 4 Long & Allstatter.
 38 in. punch, Hilles & Jones.
 6 ft. bending rolls, heavy, Hilles & Jones.
 10 ft. bending rolls, hinged housings, Hilles & Jones.
 No. 1 straightening rolls, Hilles & Jones.
 6 ft. hydraulic riveter, complete, Bement-Miles.
 8 ft. flanging machine, hydraulic, Bement.

SECOND-HAND MACHINERY.

J. J. McCabe—Continued.

HORIZONTAL BORING AND DRILLING MACHINES.

- | | |
|--|--|
| 11 in. knee type, Garvin. | 24 in. knee type, Bement. |
| 21 in. horizontal floor drilling machine, Corliss. | 3 in. knee type, Newark heavy drilling and tapping machine, Niles. |
| 24 in. knee type, Bement. | |

SLOTING MACHINES.

- | | |
|---------------------------|---|
| 8 in. Newark, auto feeds. | 18 in. Bement-Miles, auto feeds. |
| 12 in. Sellers. | 24 in. Sellers, auto feeds, 48 in. table. |

RAILROAD TOOLS.

- 20 in.x11 ft. single end axle lathe, Bement.
 76 in., double head driving wheel lathe, Bement.
 84 in. single head driving wheel lathe, Niles.
 88 in. quartering machine, Bement.
 Axle and centering machine.
 Car wheel grinding machine, double head, Springfield.
 20 in. locomotive frame slotter, Sellers.
 24x8 in.x11 ft. Bement rod planer.

Complete list No. 144 now issued—write.

FOR SALE BY

Novelty Knitting Underwear Co., - - - Waterford, N. Y.

BOILERS.

One new 160 h. p. McEwen boiler, 72x18 used 1 year; also one Berryman heater for same.

ENGINES.

One 85 h. p. Knowlson & Kelly Corliss engine, in first-class running order and all right in every way.

PUMPS.

One 4x4 Deane triplex suction pump for high or low pressure; used one year; in first-class running order.
 One Button pump in first-class running order, for feeding boiler against 125 lbs. pressure, or for pumping water.

DYNAMO.

One Adams dynamo in first-class running order and all right in every way, for 200 lights.

PULLEYS AND HANGERS.

All sizes of wood, iron and steel split pulleys.

FOR SALE BY

The Cincinnati Planer Co., - - - Cincinnati, Ohio.

Second-Hand Tools—Bargains!

PLANERS.

- | | |
|--|---|
| 30x30x15 Cinti. s. h. arr. for d. h. \$1,000 | 72x60x12 Pond, s. h. & s. h. \$2,500 |
| 34x24x12 Cinti, d. h. 1,000 | 74x56x20 L. W. Pond, 2 heads., replaned and overhauled. 2,900 |
| 36x26x14 Chandler, 2 heads. 2,000 | Niles floor head. 350 |
| 40x20x8 Cinti, d. h. 1,000 | |

LATHES.

- | | |
|---------------------------|------------------------------|
| 13x5 Drees, turret. \$200 | 16x16 automatic screw. \$550 |
|---------------------------|------------------------------|

DRILLS AND BORING MACHINES.

- | | |
|---|---|
| 14 in. sensitive, American. \$ 35 | Upright, b. g., p. f., and tapping attachment, 24 in. Cincinnati. \$200 |
| Horizontal, No. 1 Fosdick, boring and drilling machine. 800 | |

MISCELLANEOUS.

- | | |
|---|---------------------------------------|
| Balancing way, No. 3 Bowsher \$ 25 | Hoist, C. & M., triplex, 5 ton. \$ 56 |
| Cranes, hand, 5 ton, 30 ft. span without hoist, (2) each. 250 | Hoist, Y. & T., triplex, 8 ton. 80 |
| Hack saw, Miller Falls. 12 | Motor, 25 h. p. Commercial. 200 |
| Hoists, Harrington, 4 ton (2) ea. 48 | Variable sp. c. s., No. 3 Reeves 20 |
| | Variable sp. c. s., No. 4 Reeves 30 |
- All of the above machinery is in first-class condition. Prices f. o. b. Cincinnati.

SECOND-HAND MACHINERY.

FOR SALE BY

The Chicago House Wrecking Co., W. 35th and Iron Sts., Chicago.

NEW AND USED MACHINERY.

Drill press, radial, 4 1/2 ft. arm.
Drill press, radial, 4 1/2 ft. arm. Gang.
Drill press, vertical, 30 in. Prentiss.
Drill press, vertical, 36 in. Prentiss.
Eng., auto. center crank, 18x18 Atlas.
Engine, auto., 28x36 in. Buckeye.
Gasoline engine, 8 h. p. Bates & Edmunds, single cyl., vert. type.

Engine, s. v., 18x24 Atlas, left hand.
Gasoline engine, 44 h. p. Fairbanks Morse.
Hoisting engine, 12x15 Lidgerwood, double drum.
Jaw crusher, 15x9, F. & C.
Resaw, band, 44 in. McDonough.

STEEL TANKS.

1000 gallon capacity (12).
1500 gallon capacity (22).
2500 gallon capacity (30).

5000 gallon capacity (37).
4500 gallon capacity (42).
6000 gallon capacity (150).

Send for 1000 p. catalog No. 889. Free on request. 40 'phones, all Yards 1000.

FOR SALE BY

The Randle Machinery Co.,

1739 Powers St., Cincinnati, O.

BOILERS.

Horiz. tubular, from 6 to 150 h. p.
Fire box, from 8 to 80 h. p.
Vertical, from 3 to 50 h. p.

ENGINES.

Corliss, from 50 to 350 h. p.
Automatic, from 15 to 100 h. p.
Throttling, from 5 to 150 h. p.

PULLEY LATHE.

60 in. Stevens.

BLOWERS.

Nos. 2 and 4 Roots.

PIPE THREADER.

4 in. Camden.

PLANER.

42x16 Bement-Daugherty.

AIR COMPRESSOR

8x6x9 locomotive type.

MISCELLANEOUS.

Heaters, tanks, pumps, exhausters, blowers, saw mill and general machinery.
Write for list. Also a full assortment of new machinery.
Sole manufacturers of the celebrated "Leader" Injectors and Jet Pumps.

FOR SALE BY

Western Machinery Co., 6th and Baymiller Sts., Cincinnati, Ohio.

LATHES.

14x5 Bradford, comp. rest.
14x6 Flather, plain rest.
15x6 Hamilton, comp. rest.
16x6 Porter, comp. rest.
19x6 Gray, plain rest.
19x8 LeBlond, compound rest.

20x14 Steptoe, solid spindle.
24x20 Fitchburg, plain rest.
44x16 Kidd Iron Works, comp. rest, triple geared.
47x20 Niles, triple geared.

BORING AND DRILLING MACHINERY.

7 ft. Callahan vert. boring mill, 1 hd.
7 ft. Niles ver. boring mill, 2 heads.
36 in. Hamilton, slid. hd., b. g. p. fd.
30 in. Bickford, slid. hd., b. g. p. fd.

28 in. Aurora vert. cyl. boring mche., tapping attachment.
20 in. Sibley, wheel and lever.
20 in. Sibley, back geared, power fd.

PLANERS.

24x24x5 Bishop.
24x24x7 Pond.
25x24x6 Sellers, worm drive.

26x26x8 Pratt & Whitney.
26x26x8 Gray.
36x36x12 Niles.

MISCELLANEOUS.

Air compressors, 10x10x10 in.
Gas engines, 10, 20, 35, 50 and 100 h. p.
Grinders, chain blocks, chucks.
Hack saws, power.
Miller, Brainard, plain, 11 in. travel.
Nickel plating dynamo.

Press, No. 53 Ferracute.
Punch, power, 1x1 in., 16 in. throat.
Refrigerating machines, 25 tons, (2).
Screw mche., No. 1 P. & W.
Shaper, crank, 16 in. Barker.
Twist drill grinders, Yankee, (3).

Cash paid for machine tools.

SECOND-HAND MACHINERY

FOR SALE BY

C. C. Worman Mach'ry Co., 94-96 W. Woodbridge St., Detroit, Mich.

BORING MILLS.

3 15-16 in. spdle., No. 5 Morse, taper.
40 in. Binsse, horiz. boring & drilling.
48 in. Harrington, vertical.
48 in. Bement & D., vertical.

HAMMERS.

40 lb. Bradley, helve.
70 lb. Dupont, belt driven.
80 lb. Yeakley, belt driven.
190 lb. Marchand & Morgan, steam.

KEYSEATERS.

No. 0 Mitts & Merrill.
No. 1 Davis.

PLANERS.

16x16x18 in. Belden, crank.
20x19x4 ft. New Haven.
22x22x5 Pond.
22x22x5 Wheeler.
24x24x5 New Haven.
24x24x7 New Haven.
24x28x8 Pratt & Whitney.
28x28x6 Pond.

PIPE MACHINES.

No. 1 Apex.
1 to 2 in. Apex, power.
1 to 2 in. "Oster," No. 200.
1 to 2 in. Peerless.
1 to 4 in. Armstrong, power.
1 to 6 in. Merrill, h. & p.

DRILLS.

8 in. Stover, sensitive.
11 in. Norton & J., sensitive.
12 in., 3 spindle, Woodward & R.
14 in., 2 spindle, Woodward & R.
14 in., 4 spindle, Woodward & R.
2 spindle Barr, sensitive.
2 spindle, Fox, sensitive.
3 spindle Barnes.
4 spindle Foote-Burt.
4 spindle Pratt & Whitney, gang.
6 spindle Fox, sensitive.
6 spindle Foote-Burt.
15 in. Kern, tapper.
16 in. Hamilton, sliding head.
17 in. Baker, style F.

SCREW MACHINES.

3 in. Cleveland auto., with slot, att.
1 in. Cleveland automatic.
1 in. Cleveland automatic.
1 in. Cleveland automatic.
10 in. x3 ft. Warner & S. automatic.
10x38 in. Garvin, with auto. ck.
11x44 in. Crescent automatic.
No. 2 Brown & Sharpe automatic.
No. 1 Hartford automatic.
No. 2 & No. 3 Hartford automatic.

TURRET LATHES.

No. 1 Warner & S., plain head., 11 in. swing.
10 in. Crescent, plain head.
10 in. Foster-Kimball, plain head.
15 in. American, square arbor Fox.
16 in. Jones & Lamson, plain head.
16 in. Bardons & Oliver, fr. gr. hd.
16 in. Warner & Swasey, plain hd.

48 in. Bement & D., car wheel.
52 in. Betts, horiz., 70 in. centers.
9 ft. Sellers, with facing attach.

175 lb. Blundell, 4 poppet, belt.
200 lb. Cox, strap helve,
1,000 lb. board lift.
Ferris & Miles, steam.

No. 2 Mitts & Merrill.
7 in. stroke keyseater.

28x28x6 Pond.
30x30x14 Niles.
32x32x8 Pond.
32x32x16 Pond.
36x36x7 Sellers.
48x48x12 Pond.
14 ft. Sellers.
16 ft. Niles, boiler plate.

1 1/2 to 6 in. Jarecki, No. 11.
2 1/2 to 6 in. Curtis & C.
2 1/2 to 6 in. Forbes, No. 110.
2 1/2 to 8 in. Merrill, h. & p.
2 1/2 to 8 in. Merrill, No. 9.
4 to 6 in. Curtis, h. & p.

20 in. Prentice.
20 in. Barnes, stationary head.
20 in. Superior, w. & l. feed.
20 in. Superior, square base.
21 in. Snyder.
26 in. Barnes, tapper.
26 in. Mechanics.
28 in. Rockford, back geared.
28 in. Snyder, sliding head.
40 in. Binsse, horizontal.
4 ft. American, plain radial.
4 1/2 ft. arm Box radial.
Portable, Dallett "B."
Portable, Thorn, DeHaven "A."
Knecht, friction sensitive.

No. 3 Hartford regular automatic.
No. 2 Pratt & Whitney.
No. 0 Brown & Sharpe, plain head.
No. 1 Foster-Kimball, plain head.
No. 1 Pratt & Whitney, wire feed.
No. 2 Pratt & Whitney, wire feed.
No. 2 Bardons & Oliver, wire feed.
No. 12 Garvin, plain, wire feed.
Garvin, friction bk. gd.
No. 140 Wells, double cut-off.

22 in. Gisholt.
24 in. Gisholt, triple gear.
12x46 B. & O., plain head.
16x5 Universal Fox.
16x5 Windsor, fric. geared head.
16x6 American b. g. Fox.
18x6 Hendy, plain head.
20x8 Star chucking lathe.

SECOND-HAND MACHINERY

WANTED BY

Rapid Card & Systems Co., - 65 Duane St., New York City.
Check end printing machine, Hoole make, recent model. State price and condition.

FOR SALE BY

McCabe Machine Co.,

P. A. McCabe, Pres., - 95 Liberty St., New York City

Boring mill, 72 in. Betts, good.
Cylinder boring machine, 34 in. bar, Barrett, near new.
Drill, radial, 34 ft. arm, Gang, good.
Gear cutter, automatic, capacity 30x8 in. x5 p., Eberhardt, good.
Grinder, automatic cutter and reamer, Greenfield, near new.
Grinder, universal, capacity 20x72 in., No. 7 Landis, near new.
Lathe, 15x6 Flather, near new.
Lathe, 20x10 American, good.
Lathe, 45x16 New Haven, near new.
Milling machine, universal, New Model No. 3 Becker, near new.
Milling machine, vertical, platen 43x14, No. 5-B Becker, near new.
Planer, open side, 36x36x10 Detrick & Harvey, near new.
Planer, 36x36x12 Powell, good.
Turret lathe, 18x6 Dreses, good.
Turret lathe, 2x24 in. Jones & Lamson, good.
Also motor, 15 h. p., switchboard, chucks, small tools, etc.
"Near new" indicates condition good as ever.
"Good" indicates condition first-class.

FOR SALE BY

The Osborne & Sexton Machinery Co., - Columbus, Ohio.

LATHES.

2x24 Jones & Lamson turret.
13x8 Barnes, compound rest, h. s. (2).
14x6 Hamilton, cp. rest, hol. sp. (3).
14x6 Prentice, cp. rest, hol. sp.
16x6 Fitchburg, compound rest.
18x6 rise and fall rest.
18x6 Reed, cp. rest, pr. cross fd.

18x10 Hamilton, cp. r. hol. sp., (2).
22x10 Hamilton, cp. rest, hol. sp.
24x10 LeBlond, turret on shears.
27x12 special lathe.
36x14 New Haven.
36x18 New Haven.
38x18 New Haven.

PLANERS.

24x24x8 Lodge & Davis.
30x24x8 Steptoe-McFarlan.
30x30x10 single head.
30x30x12 Bement-Doherty.
32x32x10 Gray, 2 heads.

33x33x12 Cincinnati, 2 heads.
36x36x12 Cincinnati, 2 heads.
36x36x12 Sellers, 1 and 2 heads, (2).
48x48x20 Belmar, 4 heads.

BORING MILLS.

72 and 84 in. Sellers.
84 in. Sellers, widened pattern.

83 in. Johnson, single head.
7, 8 and 8 ft. Betts, 3 heads.

MISCELLANEOUS.

Air compressor, 6x6 Franklin.
Air compressor, 100 ft. Bury.
Bolt cutter, 14 in. Landis.
Boring mches., cyl., 20 in. Barrett (2).
Boring mill, horiz., 14 in. B. & S.
Bulldozer pump, 6 in. Meyers.
Cock grinder, double.
Drill, 25 in. Kern, sliding head.
Drill, radial, 4 ft. Gang.
Flexible shaft drill, complete.
Gas engines, 10, 15, 25 and 100 h. p.
Gas furnace, No. 2 Chicago.
Grinder, surface, No. 3 B. & S.
Hack saws, Nos. 1, 2 and 3.

Hammer, 35 lb. Williams & White.
Hammer, steam, 1,100 lb. Morgan.
Hammers, 3,000 and 5,000 lb. Toledo.
Keyseater, No. 2 W. P. Davis.
Nut tapper, 6 spindle, 2 in. Acme.
Press, foot, Niagara, heavy.
Presses, foot, No. 1 Consol. (7).
Presses, power, No. 0 Consol. (3).
Rolls, break and power, 8 ft.
Shaper, geared, 18 in. Lodge-Davis.
Tapping mch., vertical, No. 4 Garvin.
Tapping mches., Webster & P., (2).
Wheel press, hydraulic, 150 ton.

SECOND-HAND MACHINERY

FOR SALE BY

H. A. Tozer,

Little Falls, N. Y.

Borers, 4 spindle horizontal; *post borer, Gear.

Lathes, *Clement, gauge, No. 1½; *Trevor lathe.

Planer, *Jewell.

Rounder, *Knight.

Sanding machinery, *Nash sander; sand belt; sand drum.

Saws, *small band; *double sizing; cut-off saw.

Tenoner, Fay.

Belting, pulleys, shafting, etc.

Machines marked (*) practically new. All in fine condition. No reasonable offer refused.

FOR SALE BY

Cincinnati Machinery Co., 308 Johnston Bldg., Cincinnati, Ohio

Machine Tool Bargains.

ENGINE LATHES.

10x 5 Reed, s. c., r. & f. rest.

12x 5 Fairbanks c. r., s. c.

16x 6 Porter, s. c., Van Horn rest.

31x16 Rahn & Carpenter, dbl. hd.

38x15 New Haven, c. r., s. c.

60 in. Stevens pulley lathe.

Niles single head axile lathe.

12x 5 American, p. r., h. s., s. c.

14x 6 American, p. r., h. s., s. c.

24x15 New Haven, c. r., s. c.

36x15 New Haven, c. r., s. c.

60x22 American, c. r., s. c., latest pattern.

PLANERS.

15x15x3 New Haven.

26x24x7 G. A. Gray, 1 head.

32x32x12 Gray, 2 heads.

36x36x12 Chandler, 2 heads.

24x24x6 E. W. Pond, 1 head

36x26x9 G. A. Gray, 1 head.

36x36x14 Niles, 1 head.

48x48x12 Gray, 2 heads.

DRILLS.

20 in. Aurora.

28 in. sliding hd., p. f., b. g.

36 in. sliding hd., p. f., b. g.

4 ft. Niles, radial drill, full universal.

24 in. sliding hd., p. f., b. g.

32 in. sliding hd., p. f., b. g.

48 in. sliding hd., p. f., b. g.

5 ft. Gray radial drill, plain.

SHAPERS.

15 in. crank, G. & E.

24 in. crank, Barker.

30 in. crank, G. & E.

18 in. crank, Barker.

24 in. geared, L. & D.

SCREW MACHINES, TURRET LATHES, ETC.

Brown & Sharpe, h. s. machine, for

1 in. stock.

No. 1 Dreeses, p. h., automatic chuck

and wire feed, h. s.

11 in. Foster & Kimball, plain head

turret.

16 in. Dreeses, friction hd. turret.

16 in. Barnes & Oliver, p. hd. turret.

4 in. Cleveland, semi-automatic.

No. 1 Dreeses, 1 plain head.

16 in. Warner & Swasey, p. hd.

13 in. Dreeses, p. hd. turret with 1

box chuck.

16 in. Dreeses p. hd. turret.

GRINDING MACHINES.

No. 3 Brown & Sharpe, universal

cutter and reamer.

Garvin bench cutter and reamer.

No. 1 Dayton universal, tool grinder,

complete.

20 in. Blount water tool grinder.

No. 1 Cincinnati, plain, c. & r. g.

Oesterlein univ. cutter and reamer.

No. 8 Diamond grinder, complete,

with hd. column and countershaft.

A large assortment of Buffers, Polishers, etc.

MISCELLANEOUS.

Boring and milling machine, hor.,

4 in. bar, Niles-Bement.

Boring and turning mill, vert., 30 in.

Ballard.

Coiling machines, spring. (2).

Gear cutter, 24 in. G. & E., full auto.

Index centers, pl., 10 in. Brown & S.

Index centers, 10 in. U. Brown & S.

Keyseater, No. 0 Mitts & Merrill.

Milling machine, valve, 2 spindle

Warner & Swasey.

Nut tapper, 4 spindle.

Pump, power, Weiman.

Punch press, No. 5-C Ferracute,

inclinable.

Also a variety of other miscellaneous machines, too numerous to mention. If you want anything in machine tools, write us. We can furnish it. We buy machine tools for spot cash or exchange new for second-hand.

SECOND-HAND MACHINERY

FOR SALE BY

Buffalo Tool & Supply Co., 15 W. Swan St., Buffalo, New York.

SCREW MACHINES.

Pratt & Whitney screw machines, wire feed, 1 in. hole.

3½ in. Cleveland automatic, 6 hole turret.

3½ in. Gridley automatic, single spindle.

DRILLS.

24 in. Hoefler gang, 3 drills on 1 base,
all feeds, back geared.

12 in. D'Amour sensitive drills.

21 in. Snyder, b. g., w. & l. feed.

BORING MILLS.

36 in. Niles, single head, vertical boring and turning mill.

LATHES.

48x16 Sellers engine lathe, c. p. rest.

22 in. Fogart turret lathe.

28x15 Lowell M. Co. engine lathe.

26 in. Flather turret lathe.

22x10 Lodge & Davis engine lathe.

17x6 Gray engine lathe.

18x8 Gleason engine lathe.

16x6 engine lathe, fair condition.

PLANERS.

48x48x11 ft. 6 in. New Haven.

26 in. Putnam.

28x28x8 New York Steam Engine Co.

MISCELLANEOUS.

Cold saw, Nutter & Barnes.

Grinders, twist drill, Worcester make.

Grinder, piston ring, No. 210 Heald.

Sizing machine, auto., Pratt & W.

FOR SALE BY

A. D. White Machinery Co., 108-114 N. Jefferson St., Chicago.

LATHES.

9x42 in. Shepard, hollow spindle.

16x8 Davis, compound rest, hollow spindle.

14 in. x6 ft. Reed.

20x12 LeBlond, c. r., h. s.

14x6 Putnam, r. & f., cheap.

28x25 Putnam, compound rest.

16x6 Shellenbach, comp. rest & h. s.

30x10 Powell, compound rest.

16x8 LeBlond, c. r., quick change.

SCREW MACHINES AND TURRET LATHES.

No. 60 Brown & Sharpe, automatic turret forming (2).

8 in. Cleveland, semi automatic.

No. 3 16 in. Pearson screw machine.

2 in. Cleveland, automatic.

8 in. Cleveland, automatic.

14 in. Pratt & Whitney, 1½ in. h. s.

4 in. Pratt & Whitney, automatic (5)

16 in. Windsor, raised to 24 in.

8 in. Cleveland, automatic.

18 in. Davis & Egan, 2½ in. h. s.

DRILLS.

3 spindle Baker.

20 in. Blaisdell, md. b., pl. l.

6 spindle Fox, sensitive.

28 in. Barnes, power feed, b. g.

6 spindle Hendy gang drill.

3 ft. Bickford plain radial.

MILLING MACHINES AND GEAR CUTTERS.

No. 2 Universal, vertical attachment.

No. 2 Kempsmith, plain.

No. 2 Garvin, Lincoln.

36 in. Fellows gear shaper.

PLANERS AND SHAPERS.

15 in. American, crank (2)

25x6 Sellers spiral dr. planer.

16 in. Smith & Mills, geared.

36x36x10 Gray.

24x24x6 Putnam planer.

35x35x12 Niles 2 heads.

PUNCH PRESSES.

No. 2 R. & K., o. b. i. press.

No. 6 Cady.

No. 4 R. & K., o. b. i. press.

No. 754 Bliss, geared, like new.

No. 3 Michigan.

No. 3 R. & K., o. b. i. press.

MISCELLANEOUS.

Hammer, drop, 360 lb. Norton.

Hammer, power, 50 lb. Dienelt.

Hammer, steam, double frame, 650 lb.

Hammer, power, 50 lb. Fairbanks.

Morgan & Williams.

Hammer, helve, 60 lb. Bradley.

Hammer, 35 lb. Williams & White,

Keyseater, 16 in. Morton.

Justice.

Our latest "Yellow Book" is ready. You can have it regularly if you'll drop us a postal card.

SECOND-HAND MACHINERY

FOR SALE BY

Baird Machinery Company, 23rd & Smallman Sts., Pittsburg, Pa.

ENGINE LATHES AND TURRET LATHES.

14x5 Putnam, 29 in. centers.
16x6 Reed, 10 in. chuck.
18x8 Blaisdell; 18x8 New Haven.
18x18 S. & B., c. r., t. a., 16 in. chuck.
24x8 Ames; 24x16 Putnam, c. r.
26x16 Blaisdell, compound rest.

15x5 Drees & Mueller, univ. turret.
16x5 Gauge, brass turret.
18x5 Fox; 18x6 No. 2 improved Amer.
18x5 Meridan forming machine.
12x7 W. & S. dbl. cock key lathe.
15x6 Amer. No. 1, sq. arbor.

PLANERS AND SHAPERS.

16x24x8 1 head.
26x36x10 Putnam, 1 head.

14 in. Springfield, sgl. gd, 10 in. vise.
28 in. Hendy, dbl. geared, 12 in. vise.

VERTICAL AND RADIAL DRILLS.

3 spindle Garvin and Foote-Burt.
30 in. single gd. Prentice upright.
2 ft. Gang, plain radial.

4 ft. Fosdick, univ. table, and Baush.
5 ft. Betts, plain, and Prentice plain.

PRESSES, PUNCHES AND SHEARS.

No. 50C straight sided Toledo press.
No. 5 sgl. L. & A. punch & shear.
16 in. Tho. dbl. punch & shear.
Hand power punches & shears.

No. 20 Watson-S. light channel.
Hand screw punches.
Cleveland bevel shear, 1 in. plate.
Niagara power circle shear.

BOILER SHOP TOOLS.

10 ft. and 5 ft. bending rolls.
30 in. and 40 in. hand rolls, pneumatic hammers.
Rivet forges.

Air drills. Air hoists.
5 ft. & 8 ft. Pedrick & Ayer riveters.
40 lb. L. & A. helve hammer.
600 lb. Pgh. dbl. leg steam hammer.

MISCELLANEOUS.

Boiler, 6 h. p., complete.
Bolt cutter, 2 in. Acme, 1 1/2 in. header.
Cut-off saw, Reade.
Engine, gas, 25 h. p. Bessemer.
Engine, steam, vertical, 6 h. p.
Grinder, wet tool, No. 2 Diamond.

Hack saw, 12 in. Q. & C.
Miller, sing. spd., 22 in. Ingersoll.
Nickel plating plant, complete.
Pipe machine, 6 in. Williams, dbl. gd.
Screw machine, semi-auto, 10 in.

THE LODGE & SHIPLEY MACHINE TOOL CO.

**Second-Hand Machine Tools
For Sale at Bargain Prices.**

LATHES.

One 24 in. x 8 ft., 5 step cone head, quick change gear, Lodge & Shipley Engine Lathe.
Two 2 1/2 in. x 60 in. Fitchburg L.O-Swing Lathes.
One 2x24 in. Jones & Lamson Flat Turret Lathe.
One No. 3 Lodge & Shipley Rapid Reduction lathe, with 8 ft. bed.

PLANERS.

One 36x36 in. x 10 ft., 3 head, Sellers.
One 36x36 in. x 26 ft., 4 head, Sellers.
One 42x42 in. x 20 ft., single head, Putnam.

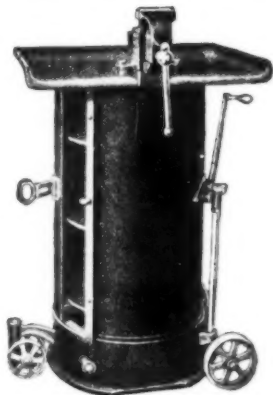
MISCELLANEOUS.

One Whiton Revolving Centering Machine.
One Franklin Cold Saw, 3 1/2 in. capacity.
One Schuster 1/2 in. Riveter, Model "A."
One Mumford 12x40 in. power ramming Molding Machine.

The Lodge & Shipley Machine Tool Co.

CINCINNATI, OHIO, U. S. A.

**It Saves Lots of Time,
On Lots of Jobs, to
Take the Bench to the Work**



Here is a Portable Bench, with vise, that you can always have right on the job. Better get it *now*, for it's needed in every machine room, repair shop, garage or car shop. It's solid enough for heavy chipping and filing. The tool cabinet may be locked.

Booklet and prices?

The New Britain Machine Co.
60 Chestnut St., NEW BRITAIN, CONN.

